WX-C55

SERVICE MANUAL

US Model
E Model

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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CD Section	Model Name Using Similar Mechanism	NEW
	CD Drive Mechanism Type	MG-378X-121
	Optical Pick-up Name	KSS-521A
TC Section	Model Name Using Similar Mechanism	XR-C8820
	Tape Transport Mechanism Type	MG-25E-136

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US Model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
13 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1% total harmonic distortion.

Other Specifications

CD player section

Signal-to-noise ratio	94 dB
Frequency response	5 – 20,000 Hz
Wow and flutter	Below measurable limit
Laser Diode Properties	
Material	GaAlAs
Wavelength	780 nm
Emission Duration	Continuous
Laser output power	Less than 44.6 µW*

** This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.*

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 20,000 Hz
Signal-to-noise ratio	

Cassette type	Dolby B NR	Dolby NR off
TYPE II, IV	67 dB	58 dB
TYPE I	64 dB	55 dB

Tuner section

FM

Tuning range	US model: 87.5 – 107.9 MHz E model: FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	
	0.7% (stereo), 0.4% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

– Continued on next page –

CHANGER CONTROL AUDIO MASTER

MICROFILM

SONY®

AM

Tuning range	US model: 530 – 1,710 kHz E model: AM tuning interval: 9 kHz/10 kHz switchable 531 - 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Outputs	Audio outputs (2) Power antenna relay control lead Power amplifier control lead
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 100 × 181 mm (7 1/8 × 4 × 7 1/4 in.) (w/h/d)
Mounting dimension	Approx. 178 × 100 × 160 mm (7 1/8 × 4 × 6 3/8 in.) (w/h/d)
Mass	Approx. 2.2 kg (4 lb. 13.6 oz.)
Supplied accessories	Parts for installation and connections (1 set) Dummy cover (1)

Design and specifications are subject to change without notice.

SERVICE NOTE

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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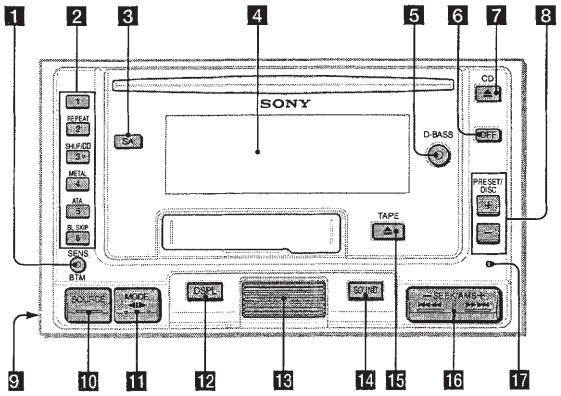
SECTION 1
GENERAL

This section extracted from instruction manual.

Location of controls



Refer to the pages for details.

1 **SENS/BTM (sensitivity adjust/best tuning memory) button 10, 11**

2 **During tuner reception:**
Preset number buttons 10

During tape/CD/MD playback:

- ② **REPEAT button 8, 9, 15**
- ③ **SHUF/□□ (Shuffle/Dolby) button 8, 9, 16**
- ④ **METAL button 9**
- ⑤ **ATA (Automatic Tuner Activation) button 9**
- ⑥ **BL SKIP (Blank Skip) button 9**

3 **SA (Spectrum Analyzer) button 14**

4 **Display window**

5 **D-BASS button 14**

6 **OFF button 7, 8**

7 **CD ⏏ (eject) button 7**

8 **PRESET/DISC button**

During radio reception:
Preset station search 11

During CD/MD playback:
Disc select 15

9 **POWER SELECT switch (located on the left side of the unit)**
See "POWER SELECT Switch" in the Installation/Connections manual.

10 **SOURCE (source select) button 7, 8, 10, 15**

11 **MODE/◀II▶ (band/unit select/tape transport direction change) button 8, 10, 15**

12 **DSPL (display mode change) button 6, 7, 9, 11, 15**

13 **Jog roller (volume/bass/treble/balance/fader) 6, 13**
Jog roller usually functions as a volume control except in some adjusting modes.

14 **SOUND button 6, 13**

15 **TAPE ⏏ (eject) button 8**

16 **SEEK/AMS (seek/Automatic Music Sensor/manual search) button 8, 9, 10, 11, 15**

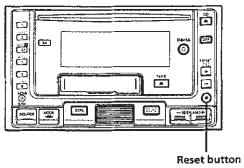
17 **Reset button 6**

When the positions of switch 9 has been changed, be sure to press the reset button after connecting power.

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Press the reset button with a pointed object, such as a ball-point pen.

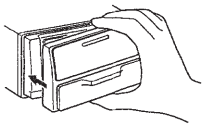


Notes

- *Pressing the reset button will erase the clock and some memorized functions.*
- *When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. If you insert a disc within these 10 seconds, the unit will not be reset, and you will have to press the reset button again.*

Using the dummy cover

To deter theft of this unit, use the dummy ashtray cover when not using your car.



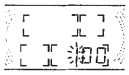
Note
If the unit does not extend 6 mm (¼ in.) from the dashboard, you may not be able to use the decoy cover.

Setting the clock

The clock uses a 12-hour digital indication.

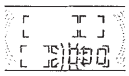
Example: Set the clock to 10:08

1 Press (DSPL) for two seconds.

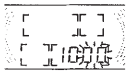


The hour digit flashes.

❶ **Set the hour.**

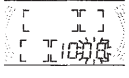


❷ Press (SOUND).

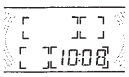


The minutes digits flash.

❸ **Set the minute.**



2 Press (DSPL).



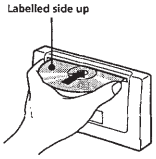
The clock starts.

Note
If the POWER SELECT switch on the left side of the unit is set to the B position, turn the power on first by pressing (SOURCE), then set the clock.

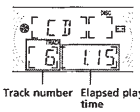
CD Player

Listening to a CD

Simply insert the CD.
Playback starts automatically.



If a CD is already inserted, press (SOURCE) repeatedly until "CD" appears.



To	Press
Stop playback	(OFF)
Eject the CD	CD ⏏

Note
If you leave the disc in the insertion slot for more than 15 seconds after pressing CD ⏏, the disc will reinsert automatically to protect the disc.

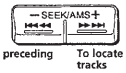
Changing the display item

Each time you press (DSPL), the item changes as follows:

Track number/Elapsed playing time ⟷ Clock

Locating a specific track
— Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) momentarily.



To locate preceding tracks — To locate succeeding tracks

Locating a specific point in a track
— Manual Search

During playback, press and hold either side of (SEEK/AMS). Release the button when you have found the desired point.

To search backward — To search forward

Note
If "L L L L" or "ㄱ ㄱ ㄱ ㄱ" appears in the display, that means you have reached the beginning or the end of the disc and you cannot go any further.

Playing a CD in various modes

You can play CDs in various modes:
- REP (Repeat Play) repeats the current track.
- SHUF (Shuffle Play) plays all the tracks in random order.

Playing tracks repeatedly
— Repeat Play

Press (2) (REPEAT) during playback.
"REP 1" appears on the display and repeat play starts.

To return to the normal playback mode, press (2) (REPEAT) again.

Playing tracks in random order
— Shuffle Play

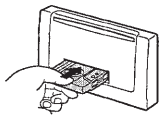
Press (3) (SHUF/□□) during playback.
"SHUF 1" appears on the display and shuffle play starts.

To return to the normal playback mode, press (3) (SHUF/□□) again.

Cassette Player

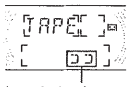
Listening to a tape

Insert a cassette.

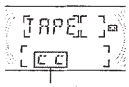


Playback starts automatically.

If a cassette is already inserted, press (SOURCE) until "TAPE" appears.



The side facing up is played.



The side facing down is played.

Tip
To change the tape transport direction, press (MODE) (◀II▶) during tape playback.

To	Press
Stop playback	(OFF)
Eject the cassette	TAPE ⏏

Fast-winding the tape

During playback, press and hold either side of (SEEK/AMS) for two seconds.

Rewind — Fast-forward

To start playback during fast-forwarding or rewinding, press (MODE) (◀II▶).

Locating the beginning of a track
— Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) momentarily.

To locate preceding tracks — To locate succeeding tracks

Note
The AMS function may not work when :
— the blanks between tracks are shorter than four seconds.
— there is noise between tracks.
— there are long sections of low volume or quiet sections.

Changing the displayed items
Each time you press (DSPL) during tape playback, the display changes as follows:

Tape playback → Clock → Frequency* →

** While the ATA function is activated.*

Playing a tape in various modes

You can play the tape in various modes:
- REPEAT (Repeat Play) repeats the current track.
- □□ (Dolby NR) lets you select the Dolby* NR B system.
- METAL plays CrO_2 or metal tape.
- ATA (Automatic Tuner Activation) turns on the tuner automatically while fast-winding the tape.
- BL SKIP (Blank Skip) skips blanks longer than eight seconds.

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Playing a track repeatedly
— Repeat play

Press (2) (REPEAT) during playback.
"REP" appears on the display and repeat play starts.

To return to the normal playback mode, press (2) (REPEAT) again.

Playing a tape recorded in the Dolby B NR system

Press (3) (SHUF/□□) during playback.
"□□" appears on the display.

To return to the normal playback mode, press (3) (SHUF/□□) again.

Playing a CrO_2 or metal tape

Press (4) (METAL) during playback.
"MTL" appears on the display.

To return to the normal playback mode, press (4) (METAL) again.

Switching to the radio while fast-winding a tape
— Automatic Tuner Activation (ATA)

Press (5) (ATA) during playback.
"ATA" appears on the display.

To return to the normal playback mode, press (5) (ATA) again.

Skipping blanks during tape playback — Blank skip

Press (6) (BL SKIP) during playback.
"BL SKIP" appears on the display.

To return to the normal playback mode, press (6) (BL SKIP) again.

Radio

Memorizing stations automatically
— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorizes them in the order of their frequencies. You can store up to 6 stations on each band (FM1, FM2, AM1, and AM2).

Caution
When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the source changes as follows:

CD → TAPE → TUNER

2 Press (MODE) repeatedly to select the band.
Each time you press (MODE), the band changes as follows:

FM1 → FM2 → AM1 → AM2

3 Press (SENS/BTM) for two seconds.
The unit stores stations in the order of their frequencies on the number buttons.
A beep sounds when the setting is stored.

Notes
- *The unit does not store stations with weak signals. If only a few stations are received, some number buttons will retain their former setting.*
- *When a number is indicated in the display, the unit starts storing stations from the one currently displayed.*

Memorizing only the desired stations

You can store up to 6 stations on each band in the order of your choice.

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band (FM1, FM2, AM1, or AM2).

3 Press either side of (SEEK/AMS) to tune in the station you want to store on the number button.

4 Press and hold the desired number button (1 to 6) until "PRESET" appears.
The number button indication appears in the display.

Note
If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorized stations

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band (FM1, FM2, AM1, or AM2).

3 Press the number button (1 to 6) momentarily where the desired station is stored.

If you cannot tune in a preset station

Press either side of (SEEK/AMS) momentarily to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Press either side of (SEEK/AMS) repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SENS/BTM) to light up "LCL" on the display (local seek mode). Only the stations with relatively strong signals will be tuned in.

Tips
- *If you know the frequency of the station you want to listen to, press and hold either side of (SEEK/AMS) until the desired frequency appears (manual tuning).*
- *You can also select the preset stations by pressing PRESET/DISC + or –.*

If FM stereo reception is poor
— Monaural Mode

Press (SENS/BTM) repeatedly until "MONO" appears.
The sound improves, but becomes monaural ("ST" disappears).

To return to the normal mode, press (SENS/BTM) again until "MONO" disappears.

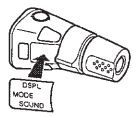
Changing the display item
Each time you press (DSPL), the items changes as follows:

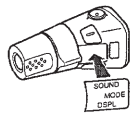
Frequency ⟷ Clock

Other Functions

The rotary commander labels

You can control this unit with the optional rotary commander (RM-X4S).
Some labels are supplied with the rotary commander. Attach labels to match the functions of the master unit according to the position of the rotary commander.
When you mount the rotary commander, attach the label as in the illustration below.

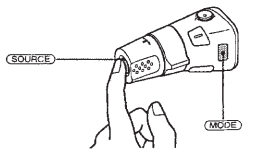




Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.
You can control an optional CD/MD unit by the rotary commander.

By pressing buttons (the SOURCE and the MODE buttons)



Every time you press (SOURCE), the source changes as follows:

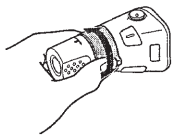
TUNER → CD → MD → TAPE

Pressing (MODE) changes the operation in the following ways:

- Tuner: FM1 → FM2 → AM1 → AM2
- CD unit: CD1 → CD2 → ...
- MD unit: MD1 → MD2 → ...
- Tape: tape transport direction

Tip
You can turn on this unit by pressing (SOURCE) on the rotary commander.

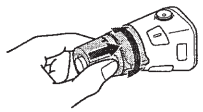
By rotating the control (the SEEK/AMS control)



Rotate the control momentarily and release it to:

- Locate the beginnings of tracks on the tape. Rotate and hold the control, then release it to fast-wind the tape.
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to tune in a specific station.

By pushing in and rotating the control (the PRESET/DISC control)

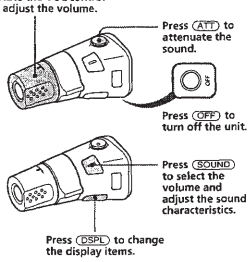


Push in and rotate the control to:

- Receive the stations memorized on the preset buttons.
- Change the disc.

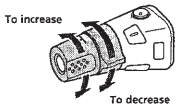
Other operations

Rotate the VOL control to adjust the volume.

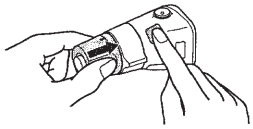

Press (ATT) to attenuate the sound.
Press (OFF) to turn off the unit.
Press (SOUND) to select the volume and adjust the sound characteristics.
Press (DSPL) to change the display items.

Changing the operative direction

The operative direction of controls is factory-set as in the illustration below.



If you need to mount the rotary commander on the right side of the steering column, you can reverse the control's operative direction.



Press (SOUND) for two seconds while pushing in the VOL control.

Adjusting the sound characteristics

1 Select the item you want to adjust by pressing (SOUND) repeatedly.
Each time you press (SOUND), the item changes as follows:

VOL (volume) → BAS (bass) → TRE (treble)
FAD (front-rear) ← BAL (left-right)

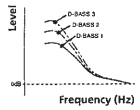
2 Adjust the selected item by rotating the jog roller.

Adjust within three seconds after selecting. (After three seconds the jog roller will again serve as the volume control.)

Changing the sound and beep tone

Boosting the bass sound — D-Bass

You can enjoy clear and powerful bass sounds. The D-bass function boosts the low frequency signal with a sharper curve than conventional bass boost.
You can hear the bass line more clearly even if the vocal sound is the same volume. You can emphasize and adjust the bass sound easily.



Adjusting the bass curve

Press (D-BASS) repeatedly to select the desired bass curve.
Each time you press (D-BASS), the bass curve changes as follows:

D-BASS 1 → D-BASS 2 → D-BASS 3
No display (Cancel) ←

As the D-BASS number increases so does the effect.

To cancel the effect, press (D-BASS) repeatedly until "D-BASS" disappears.

Note
The bass sound may distort at same volume. If the bass sound distorts, select less effective bass curve.

Turning off the beep tone

Press (6) while pressing (SOUND).

To obtain the beep tone again, press these buttons once more.

Selecting the spectrum analyzer

The sound signal level is displayed on a spectrum analyzer. You can select from 8 display patterns .

During playback, press (SA) to select a desired setting.
Each time you press (SA), the setting changes as follows:

SA-1 → SA-2 → SA-3 → ... → SA-8 → SA* →

** Patterns SA-1 to SA-8 appear for 10 seconds each in sequence.*

Adjusting the spectrum analyzer level

You can select from three spectrum analyzer levels.

During playback, press (SA) for two seconds.
Each time you press and hold (SA) for two seconds, the displayed item changes as follows:

L-1 → L-2* → L-3

** Factory pre-setting*

With Optional Equipment
CD/MD unit

You can control two CD or MD units with this unit.

Playing a CD or MD

1 Press (SOURCE) repeatedly until "CD" or "MD" appears.

2 Press (MODE) repeatedly to select the desired CD/MD changer.
CD/MD playback starts.

When a CD/MD unit is connected, all the tracks play from the beginning.

Switching to other discs

During playback, press PRESET/DISC ⊕ or ⊖.

Changing the display item

Each time you press (DSPL) during CD or MD playback, the item changes as follows:

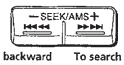
Disc number/
Track number/Elapsed playing time
↕
Clock

Locating a specific track — Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) once for each track you want to skip.

Locating a specific point in a track — Manual Search

During playback, press and hold either side of (SEEK/AMS). Release the button when you have found the desired point.



Playing tracks repeatedly — Repeat Play

You can select:

- REP 1 to repeat a track.
- REP 2 to repeat a disc.
- REP 3 to repeat all the discs in the current unit.

During playback, press (2) (REPEAT) repeatedly until the desired setting appears.

REP 1 → REP 2* → REP 3*
No display (Cancel) ←

Repeat Play starts.

** "REP 2" and "REP 3" are only available when you connect one or more optional CD units, or when you connect two or more optional MD units.*

To return to the normal playback mode, press (2) (REPEAT) repeatedly until "REP" desappears.

Note
When you play back a CD on this unit, Repeat 3 has the same function as Repeat 2.

Playing tracks in random order — Shuffle Play

You can select:
- SHUF 1 to play the tracks on the current disc in random order.
- SHUF 2 to play the tracks in the current changer in random order.
- SHUF All to play all the tracks in random order.

During playback, press ③ (SHUF/□□) repeatedly until the desired setting appears.

SHUF 1 → SHUF 2 → SHUF All* → No display (Cancel) →

Shuffle Play starts.

* *"Shuf All" is only available when you connect one or more optional CD units, or when you connect two or more optional MD units.*

To return to the normal playback mode, press ③ (SHUF/□□) repeatedly until "SHUF" desappears.

Additional Information

Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speakers of two-speaker systems, set the fader control to the center position.
- If your car is equipped with a power aerial, it will extend automatically while the unit is operating.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Notes on handling CDs

A dirty or defective disc may cause sound dropouts while playing. To enjoy optimum sound, handle the disc as follows.
Handle the disc by its edge. To keep the disc clean, do not touch the surface.

Do not stick paper or tape on the labelled surface.

Connections

Connection diagram

Equipment used in illustrations (not supplied)

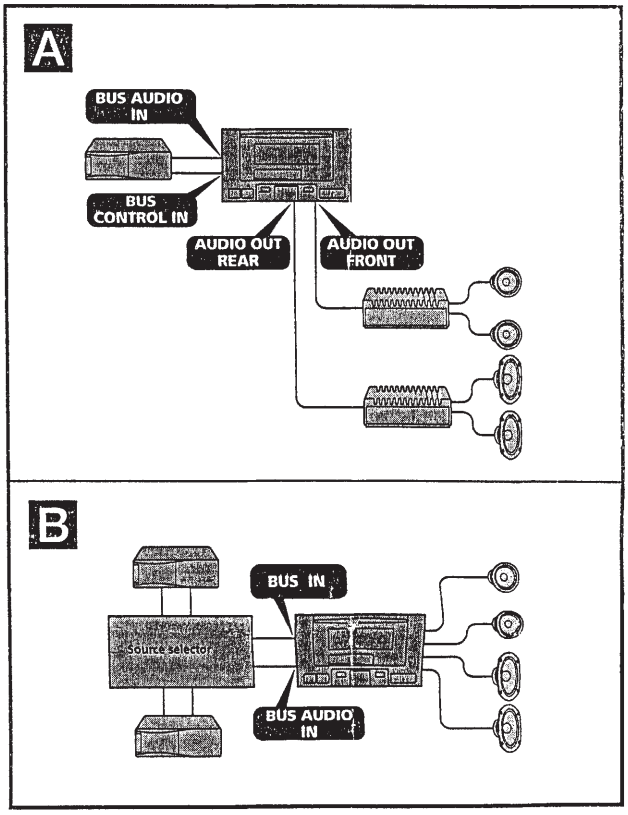
CD/MD changer

Front speakers

Power amplifier

Rear speakers

For connecting two or more changers, the source selector XA-C30 (optional) is necessary.



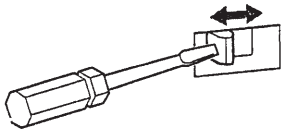
Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.
- The use of optional instruments with this product will increase eye hazard.

If your car has no accessory position on the ignition key switch

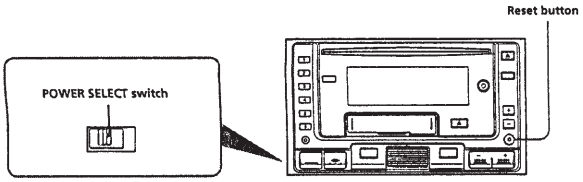
— POWER SELECT switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch.** To avoid this battery wear, **set the POWER SELECT switch located on the left side of the unit to the ⓐ position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

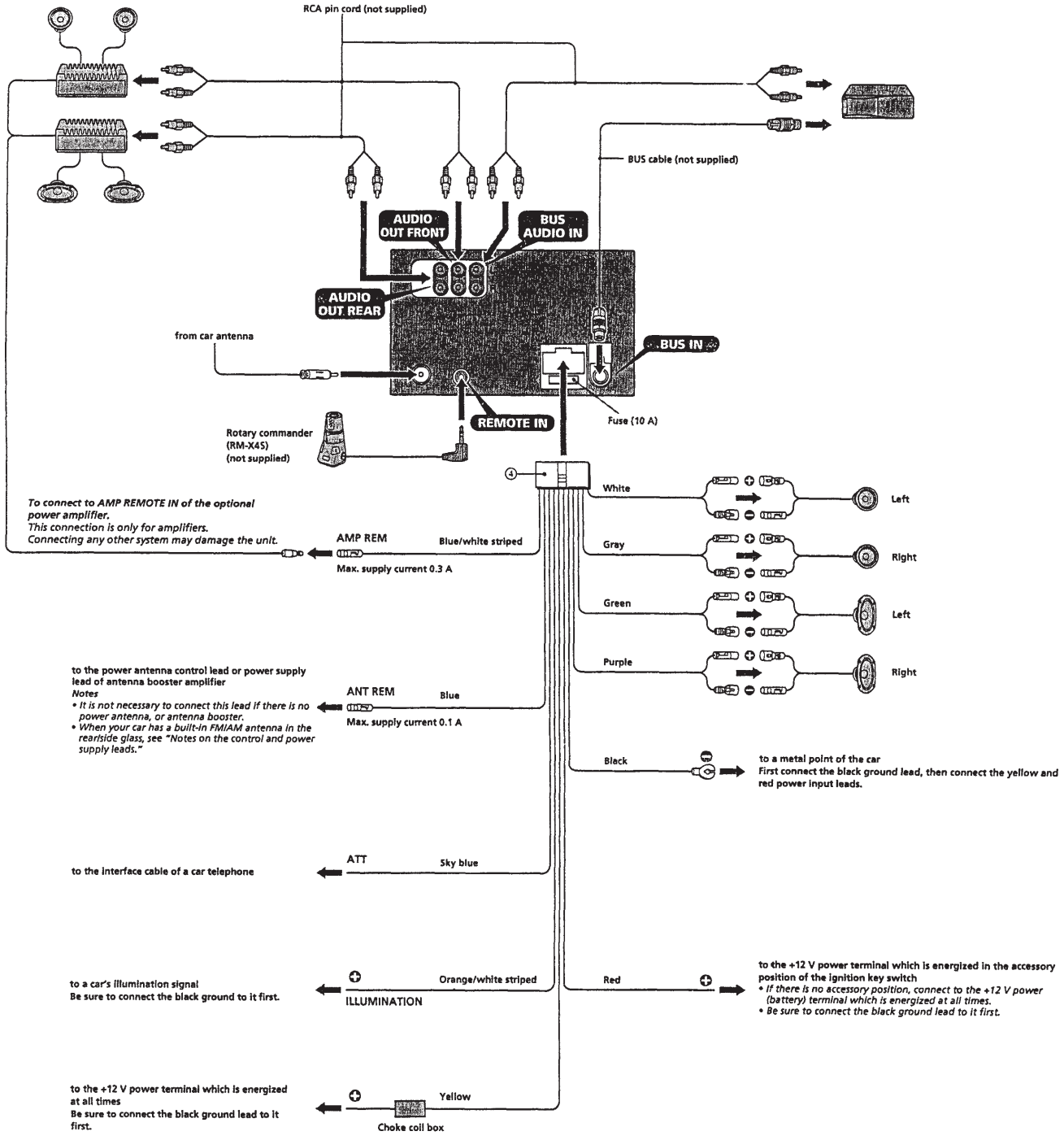


Reset button

When the installation and connections are over, be sure to press the reset button with a ballpoint pen, etc.



Connection example


RCA pin cord (not supplied)
BUS cable (not supplied)
AUDIO OUT FRONT
BUS AUDIO IN
AUDIO OUT REAR
from car antenna
BUS IN
REMOTE IN
Fuse (10 A)
Rotary commander (RM-X4S) (not supplied)
To connect to AMP REMOTE IN of the optional power amplifier.
This connection is only for amplifiers.
Connecting any other system may damage the unit.
AMP REM
Blue/white striped
Max. supply current 0.3 A
White
Left
Gray
Right
Green
Left
Purple
Right
to the power antenna control lead or power supply lead of antenna booster amplifier
Notes
• It is not necessary to connect this lead if there is no power antenna, or antenna booster.
• When your car has a built-in FM/AM antenna in the rearside glass, see "Notes on the control and power supply leads."
ANT REM
Blue
Max. supply current 0.1 A
Black
to a metal point of the car
First connect the black ground lead, then connect the yellow and red power input leads.
to the interface cable of a car telephone
ATT
Sky blue
to a car's illumination signal
Be sure to connect the black ground to it first.
Orange/white striped
ILLUMINATION
Red
to the +12 V power terminal which is energized in the accessory position of the ignition key switch
• If there is no accessory position, connect to the +12 V power (battery) terminal which is energized at all times.
• Be sure to connect the black ground lead to it first.
to the +12 V power terminal which is energized at all times
Be sure to connect the black ground lead to it first.
Yellow
Choke coil box

Notes on the control and power supply leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) Function.*
- *When your car has a built-in FM/AM antenna in the rearside glass, it is necessary to connect the power antenna control lead (blue) to the power terminal of the existing antenna booster. For details, consult your dealer.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

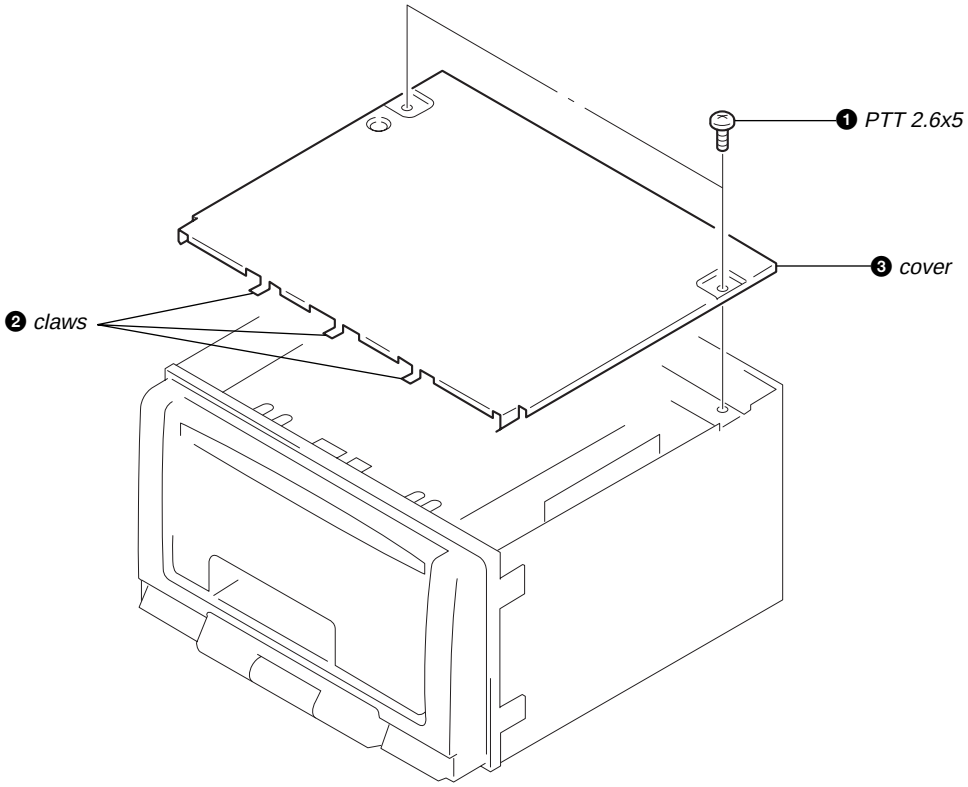
Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

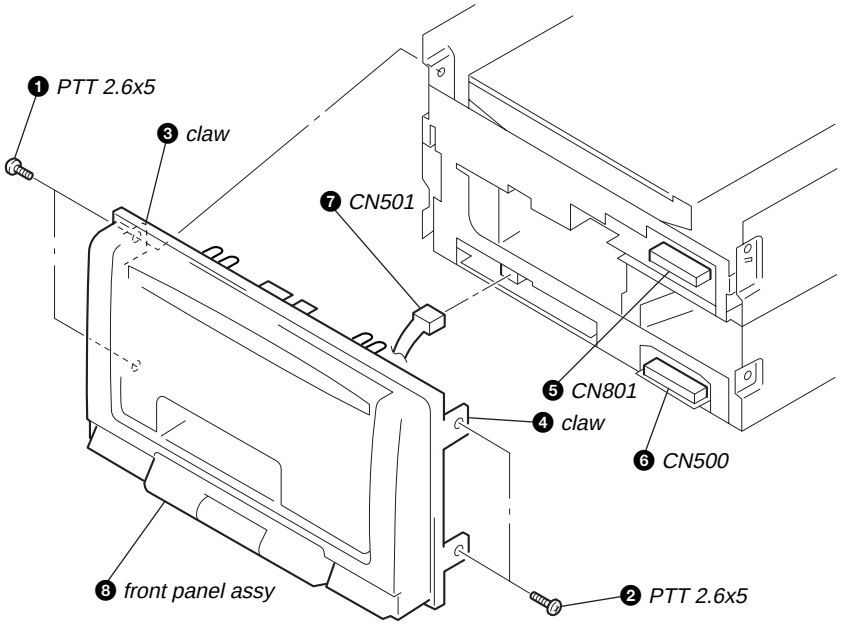
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

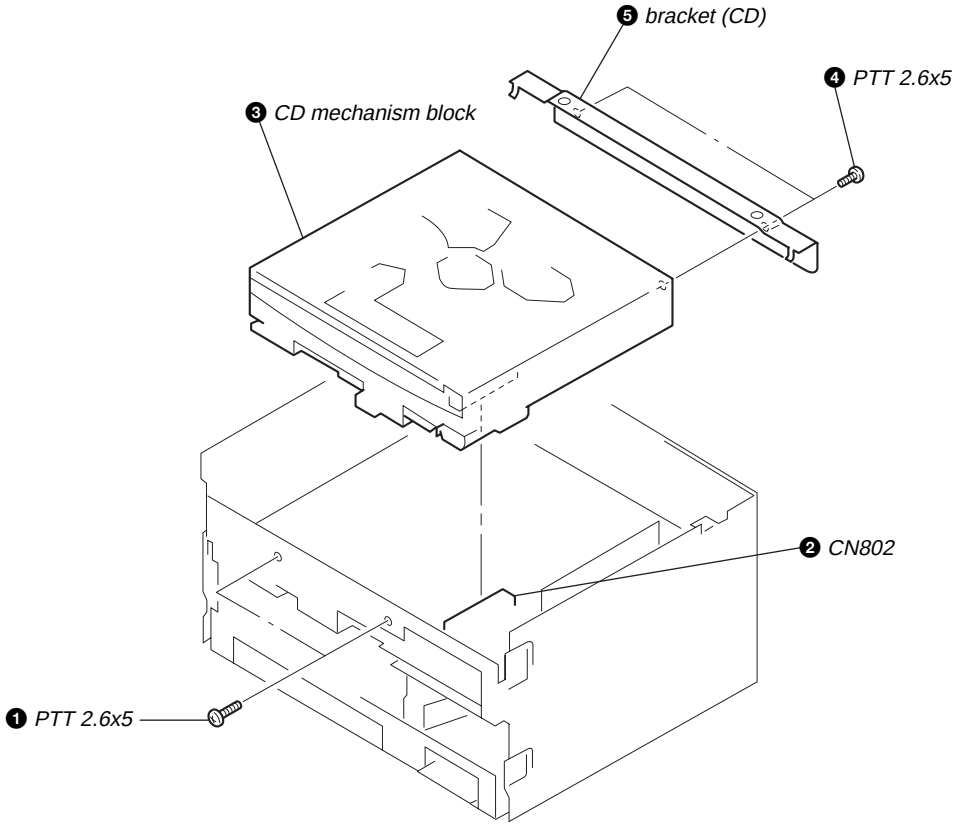
2-1. COVER



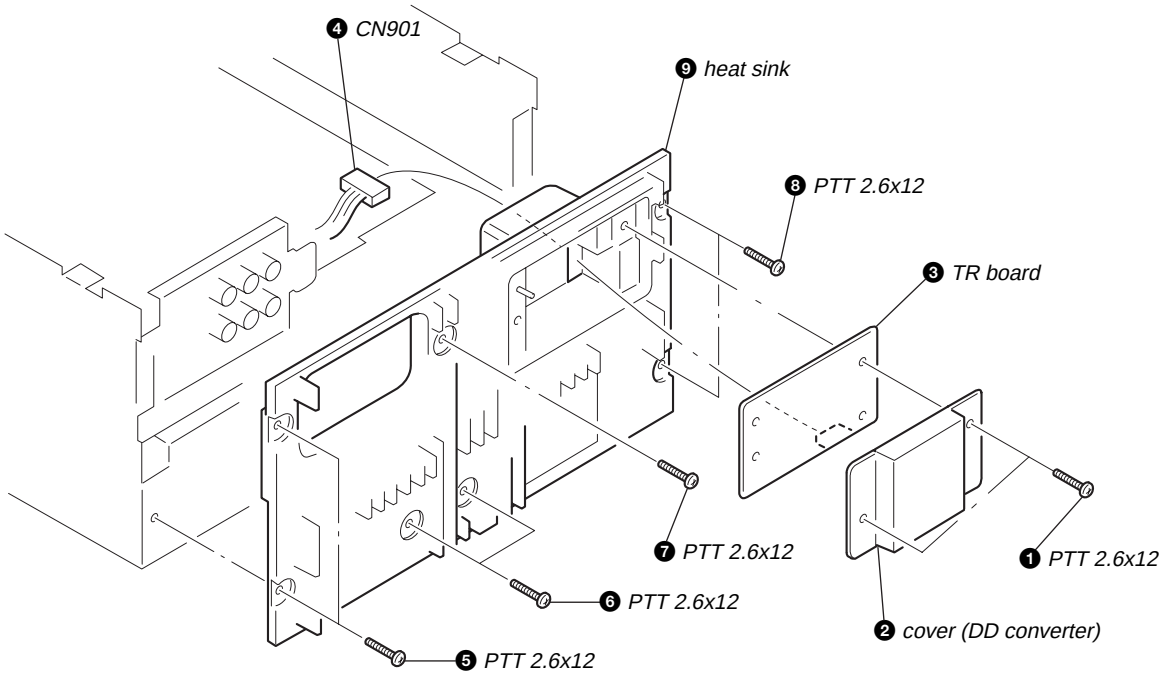
2-2. FRONT PANEL ASSY



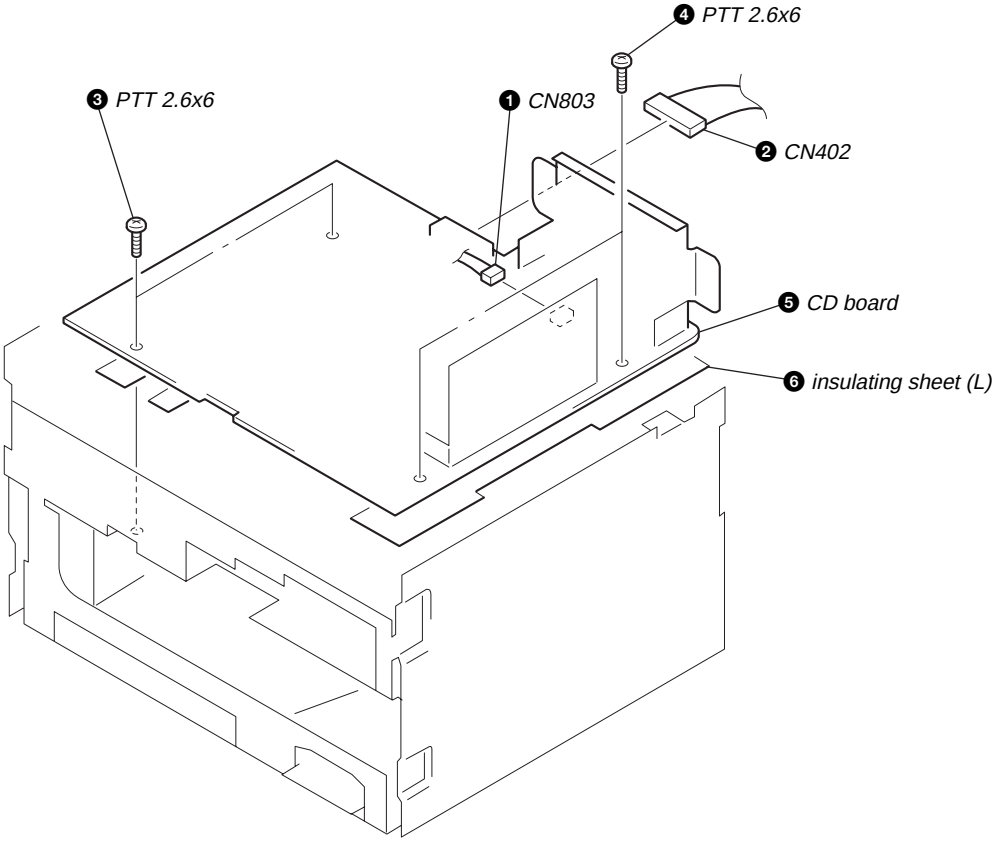
2-3. CD MECHANISM BLOCK



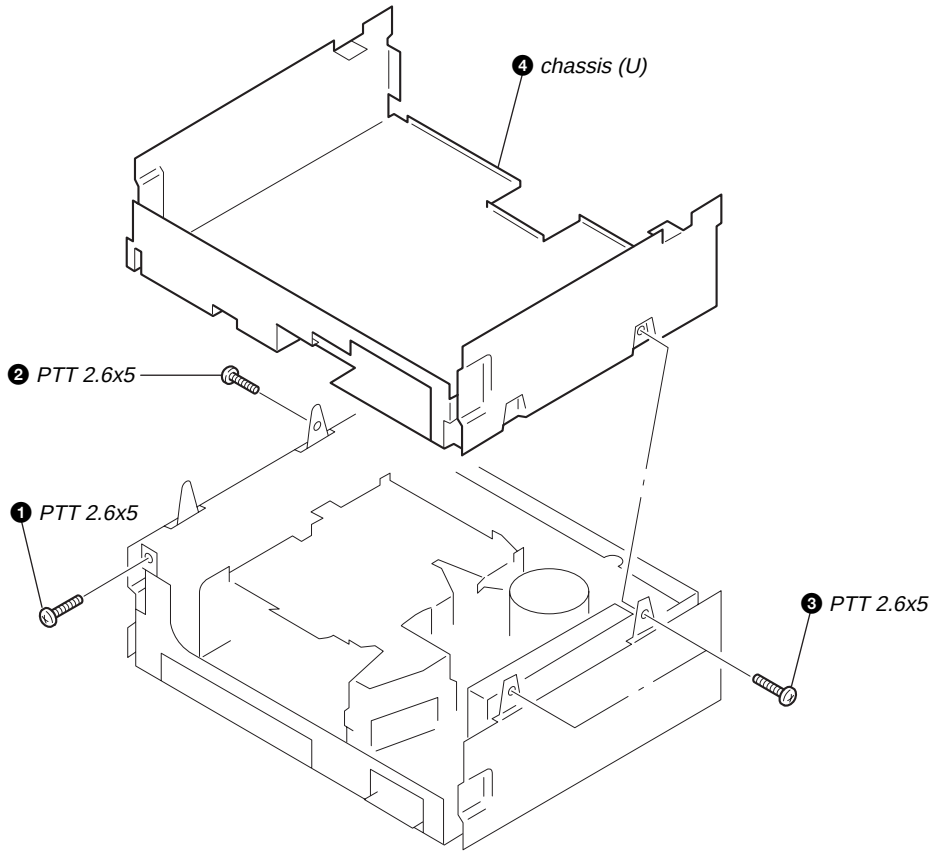
2-4. TR BOARD, HEAT SINK



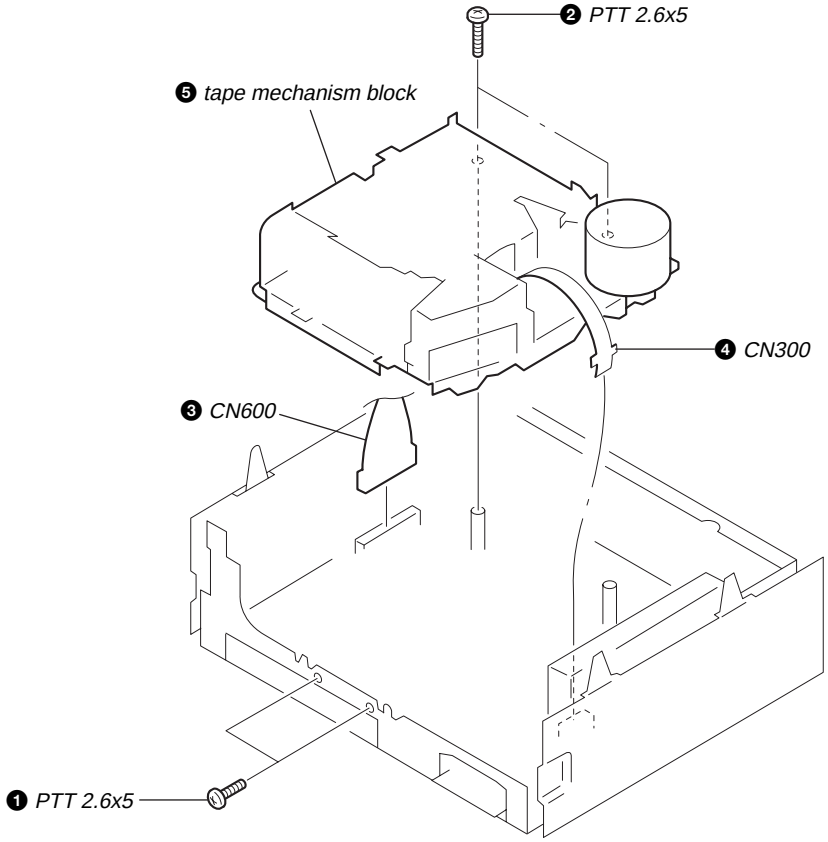
2-5. CD BOARD



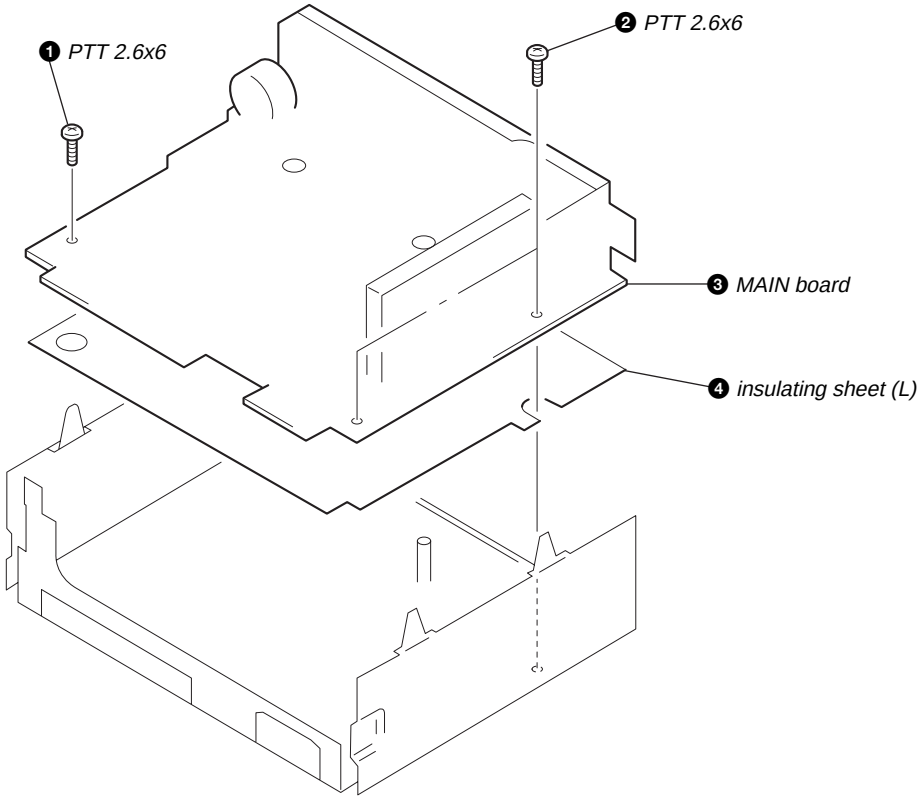
2-6. CHASSIS (U)



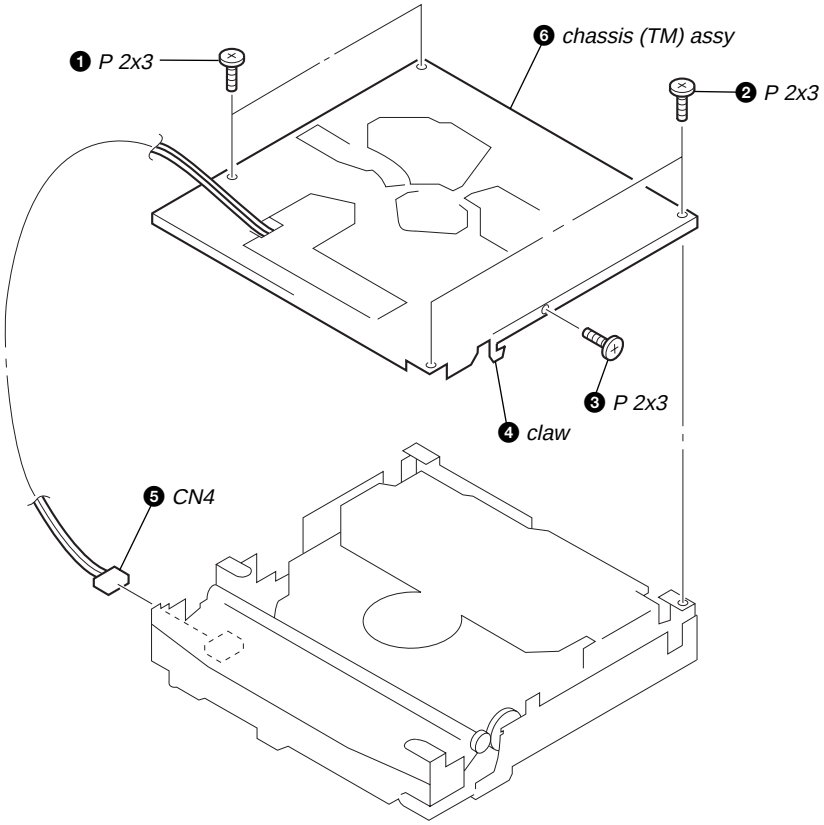
2-7. TAPE MECHANISM BLOCK



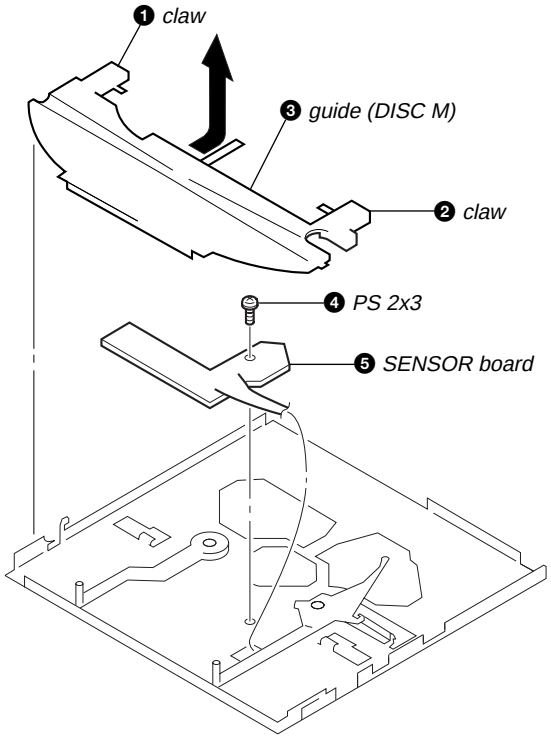
2-8. MAIN BOARD



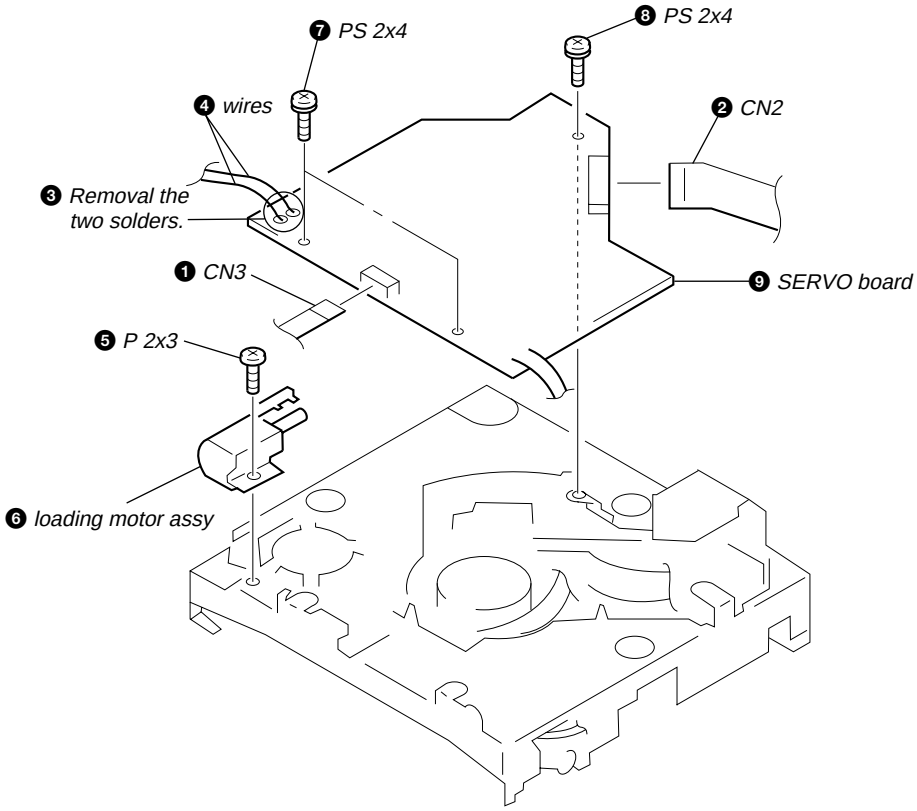
2-9. CHASSIS (TM) ASSY



2-10. SENSOR BOARD



2-11. SERVO BOARD



2-12. ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

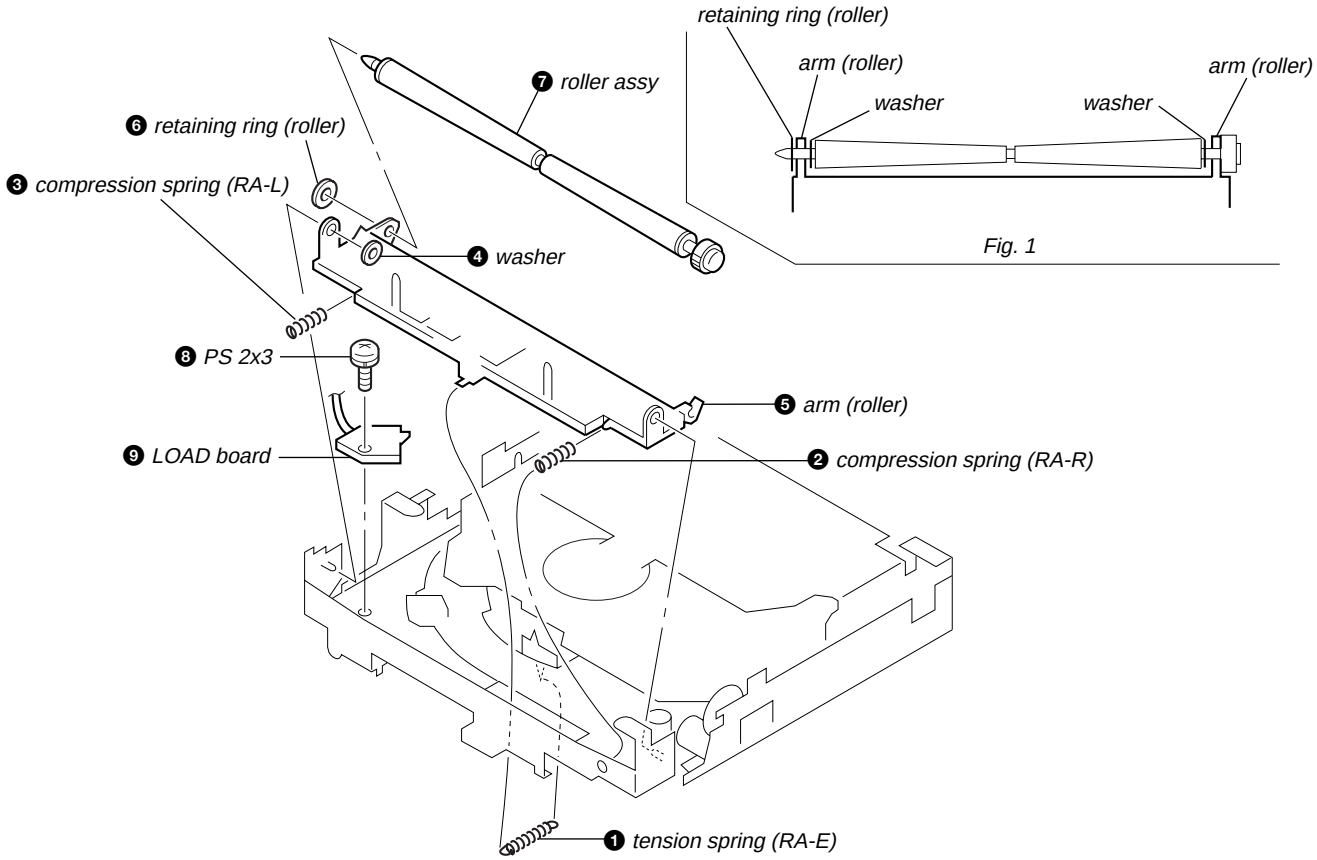
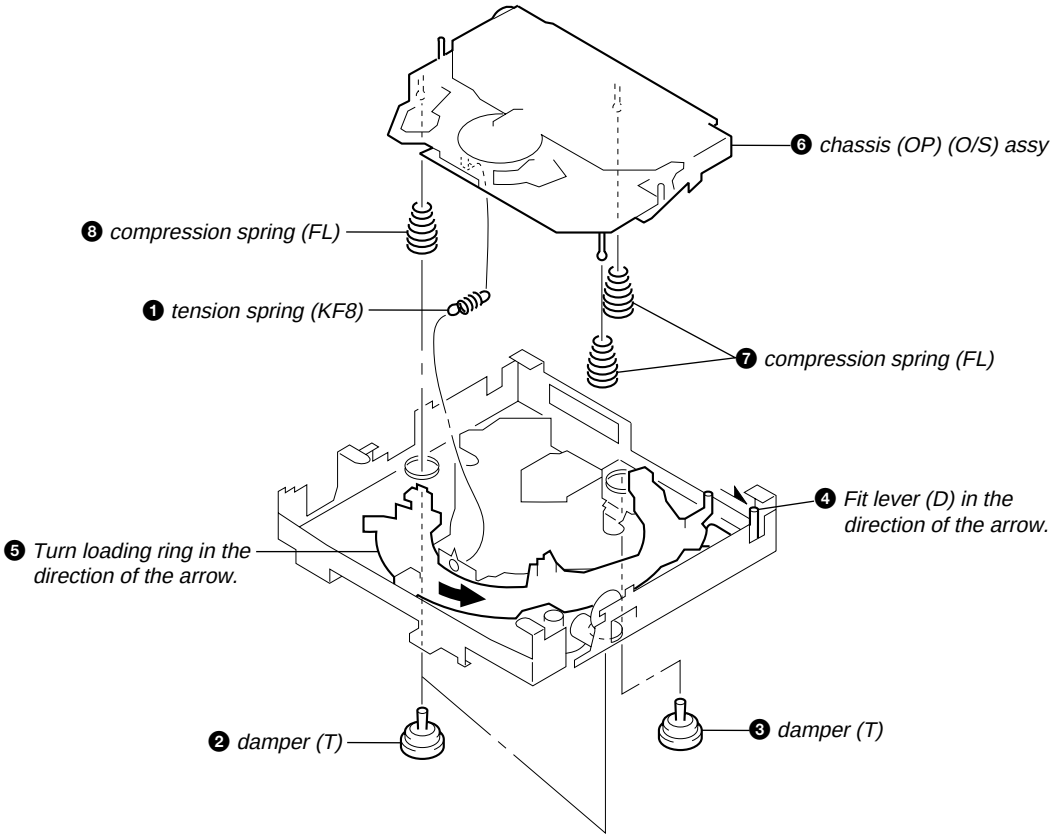
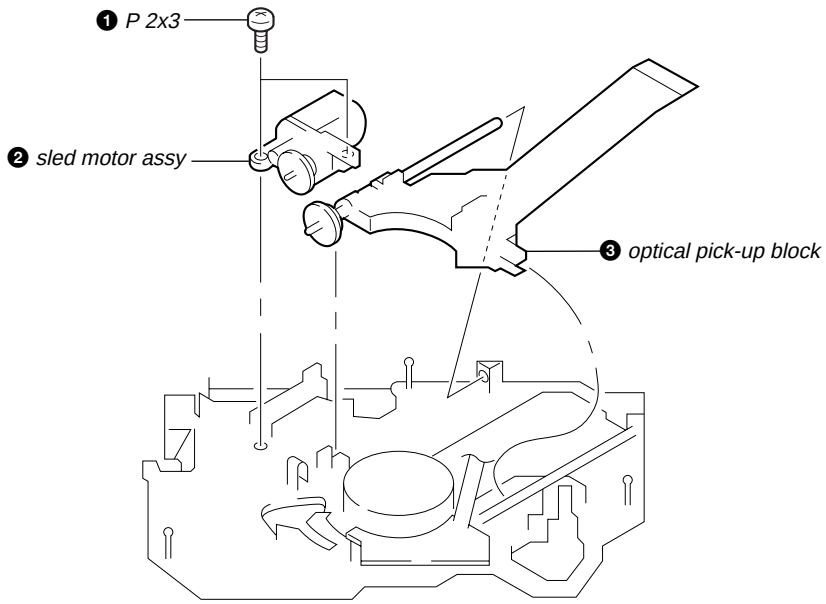


Fig. 1

2-13. CHASSIS (OP) (O/S) ASSY


❻ chassis (OP) (O/S) assy
❽ compression spring (FL)
❶ tension spring (KF8)
❼ compression spring (FL)
❹ Fit lever (D) in the direction of the arrow.
❺ Turn loading ring in the direction of the arrow.
❷ damper (T)
❸ damper (T)

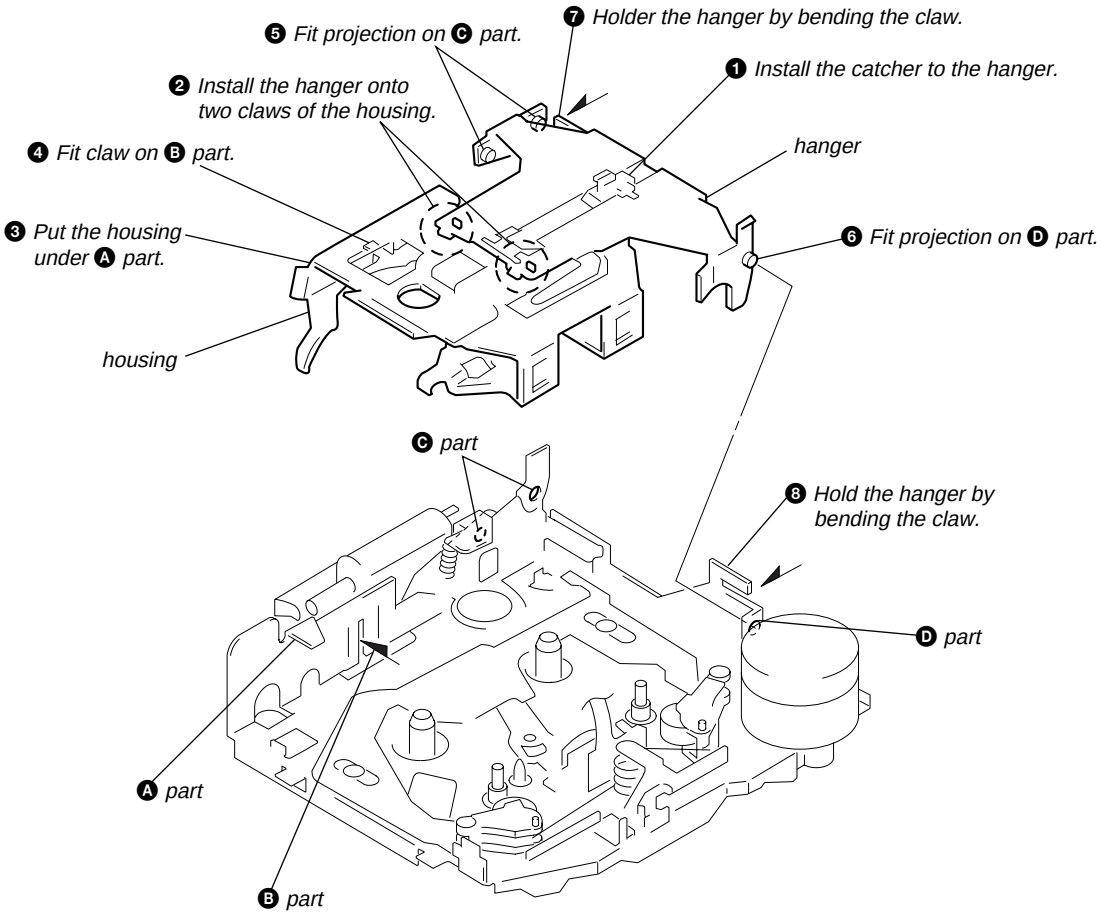
2-14. OPTICAL PICK-UP BLOCK



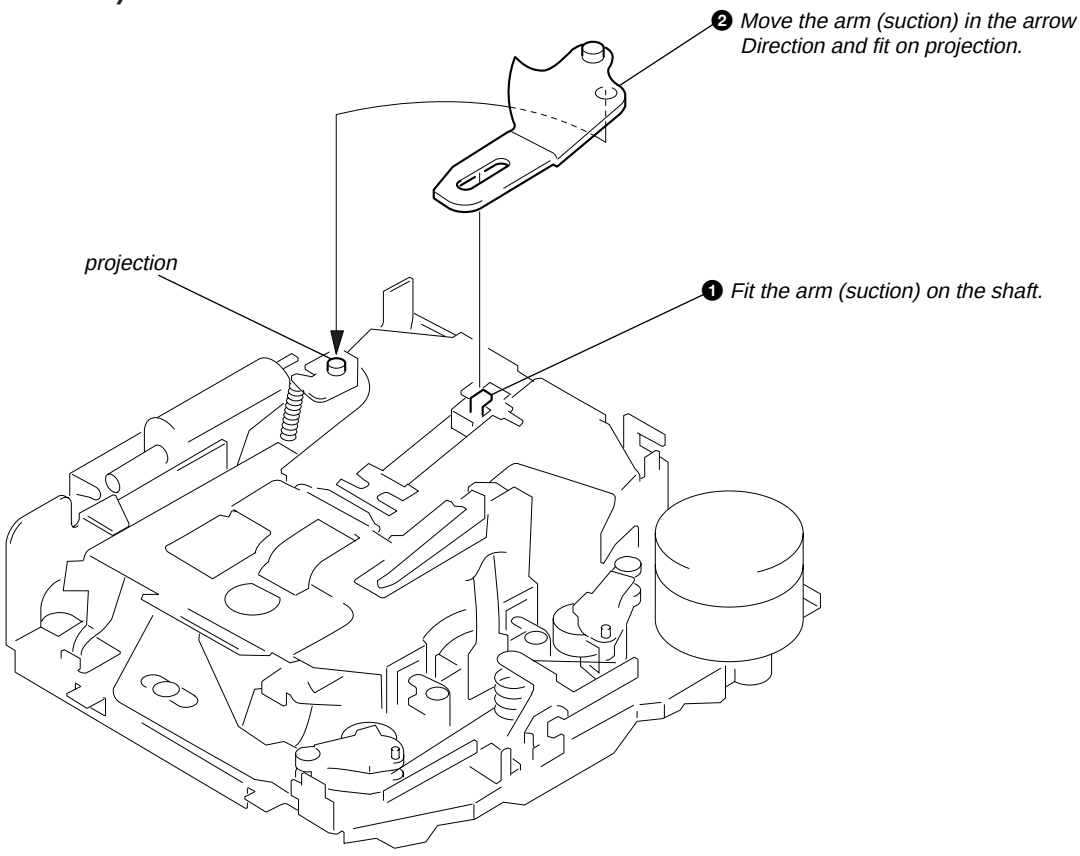
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note : Follow the assembly procedure in the numerical order given.

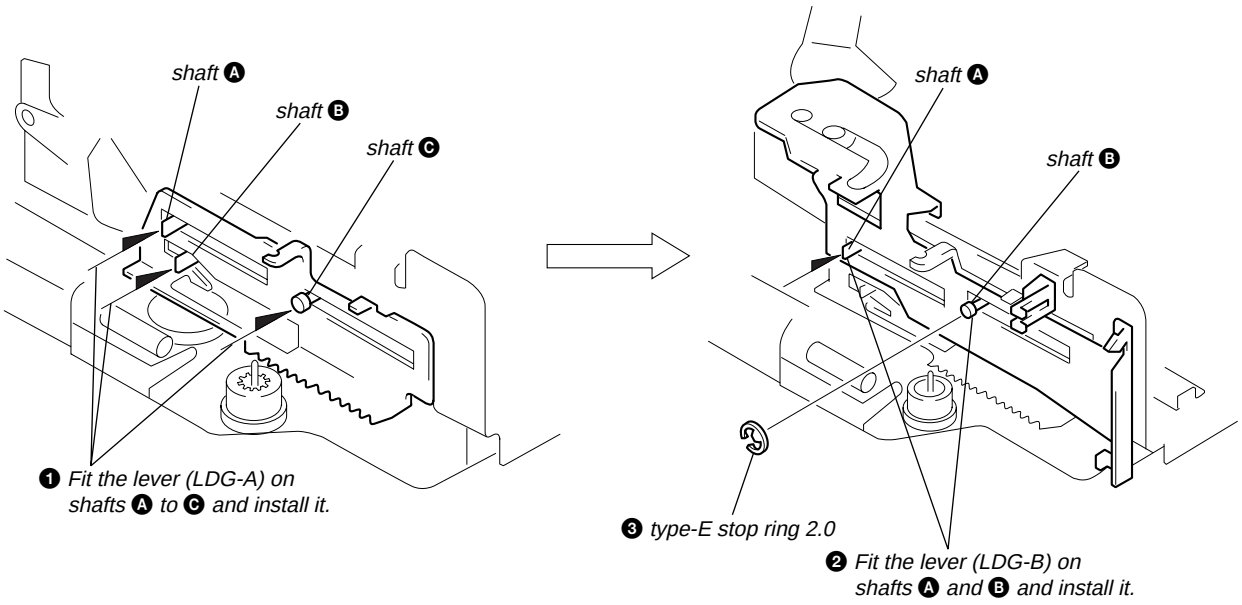
3-1. HOUSING


❺ Fit projection on Ⓒ part.
❼ Holder the hanger by bending the claw.
❶ Install the catcher to the hanger.
❷ Install the hanger onto two claws of the housing.
❹ Fit claw on Ⓑ part.
hanger
❸ Put the housing under Ⓐ part.
❻ Fit projection on Ⓓ part.
housing
Ⓒ part
❽ Hold the hanger by bending the claw.
Ⓓ part
Ⓐ part
Ⓑ part

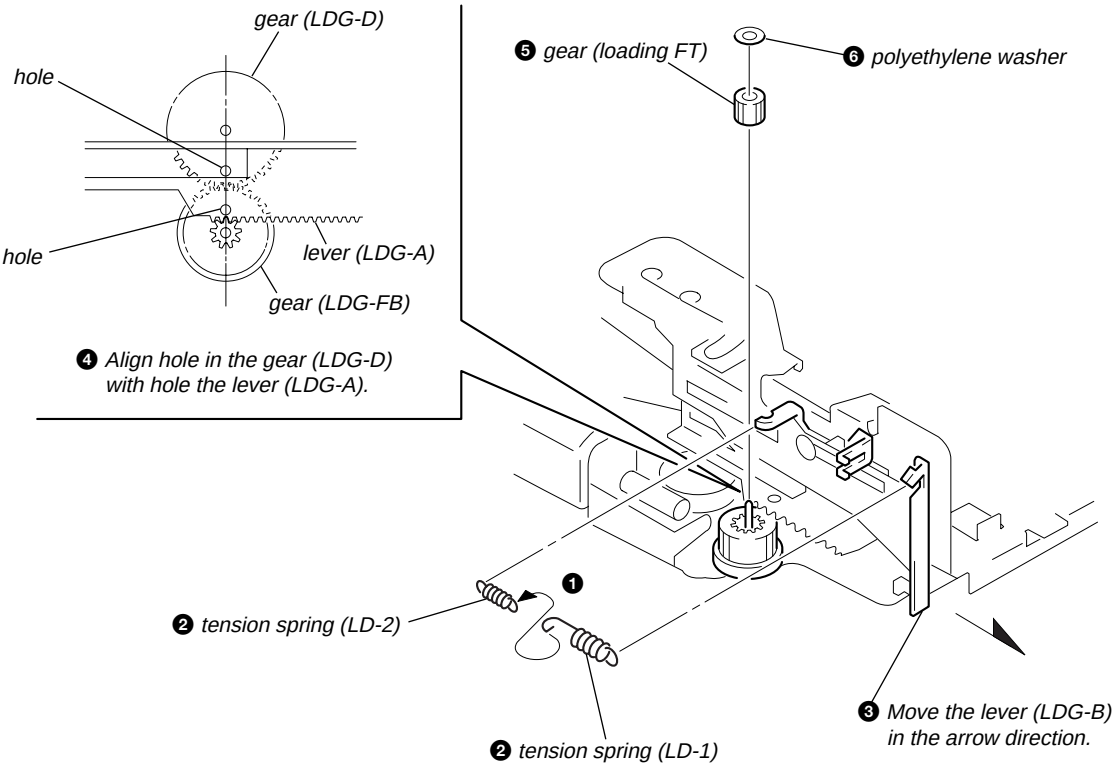
3-2. ARM (SUCTION)



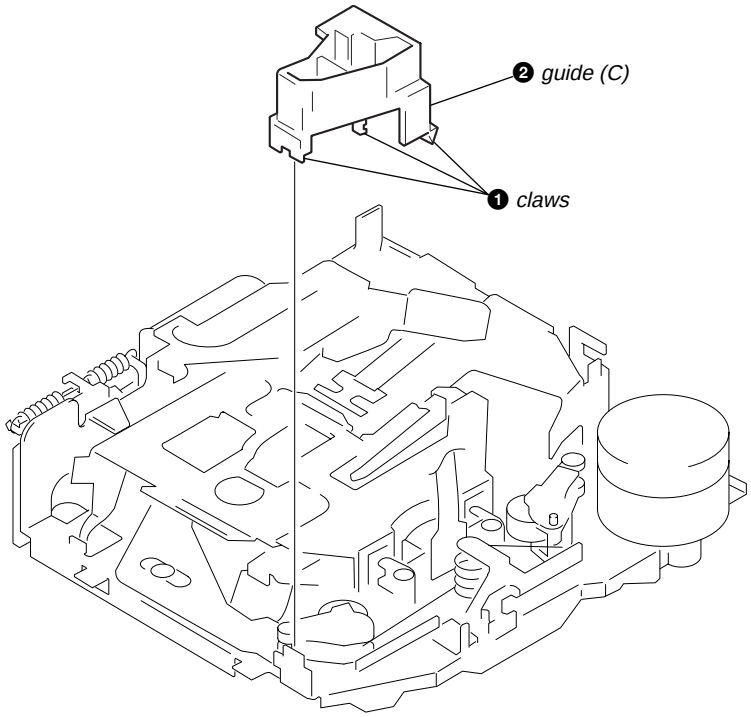
3-3. LEVER (LDG-A) / (LDG-B)


shaft Ⓐ
shaft Ⓑ
shaft Ⓒ
❶ Fit the lever (LDG-A) on shafts Ⓐ to Ⓒ and install it.
shaft Ⓐ
shaft Ⓑ
❸ type-E stop ring 2.0
❷ Fit the lever (LDG-B) on shafts Ⓐ and Ⓑ and install it.

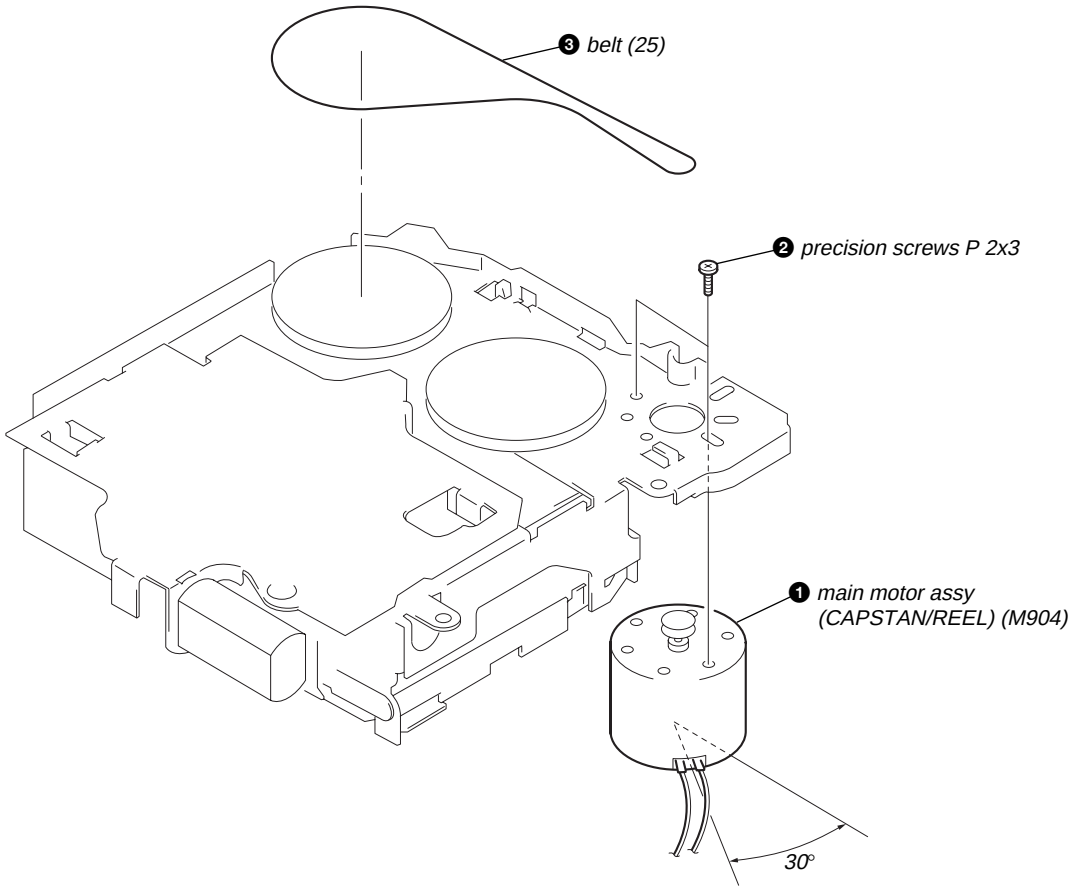
3-4. GEAR (LOADING FT)



3-5. GUIDE (C)



3-6. CAPSTAN / REEL MOTOR (M904)



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment :
   PB head Pinch roller
   Idler Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4 V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30 – 65 g • cm (0.42 – 0.90 oz • inch)
FWD Back Tension		0.5 – 4.5 g • cm (0.01 – 0.06 oz • inch)
REV	CQ-102RC	30 – 65 g • cm (0.42 – 0.90 oz • inch)
REV Back Tension		0.5 – 4.5 g • cm (0.01 – 0.06 oz • inch)
FF, REW	CQ-201B	60 – 200 g • cm (0.83 – 2.78 oz • inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 90 g (more than 3.17 oz)
REV	CQ-403R	

SECTION 5
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>

1. Turn ON the regulated power supply to ACC and BATT terminals is “OFF” position (display 1:00).
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display and LED on the front panel indicates all lights, the test mode is set.

<Release the Test Mode>

1. Push the [OFF] button.

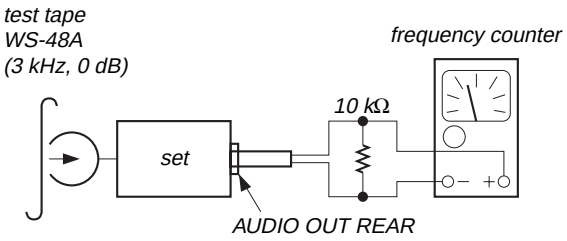
See the adjustment location from on page 23 for the adjustment.

TAPE SECTION **0 dB = 0.775 V**

Tape Speed Adjustment

Procedure :

1. Put the set into the FWD PB mode.



Specification : Constant speed

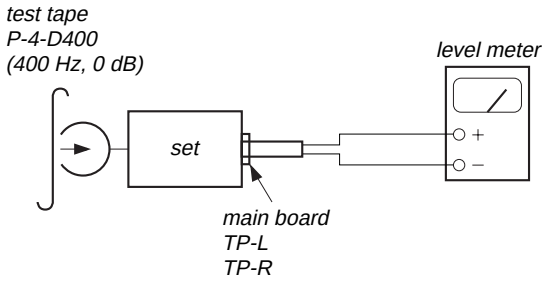
Frequency counter
3,010 to 3,030 Hz

Adjustment Location : Capstan motor internal volume (See page 23)

DOLBY Level Adjustment

Setting :

Preset [3] (SHUF/DD) button : Light down mark DD (DOLBY OFF)



Procedure :

1. Put the set into the FWD PB mode.
2. Adjust RV100 (L-CH) and RV200 (R-CH) on main board so that level meter reading is – 6 ± 0.5 dB (0.37 to 0.41 V).

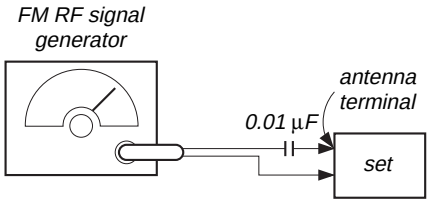
Adjustment Location : See page 23.

TUNER SECTION 0 dB = 1 µV

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

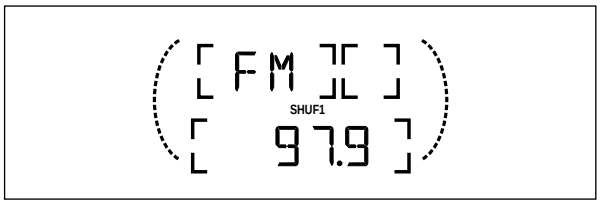
Note on Adjustment
The adjustments of tuner section, should be performed according to the following sequence.
1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. AM Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment
Setting :
SOURCE button : FM
FREQUENCY SELECT switch (E model) : FM 200k

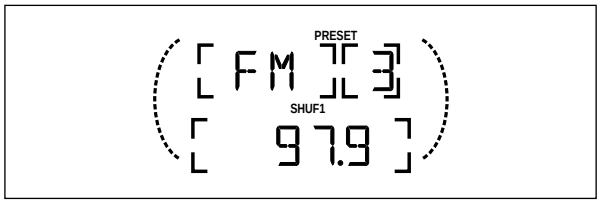


Carrier frequency : 97.9 MHz
Output level : 22 dB (12.6 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

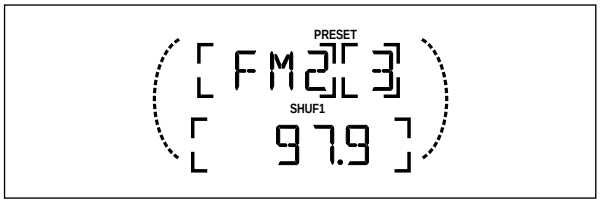
Procedure :
1. Set to the test mode.
2. Push the SOURCE button and set to FM.
Display



3. Push the preset 3 button.
Display

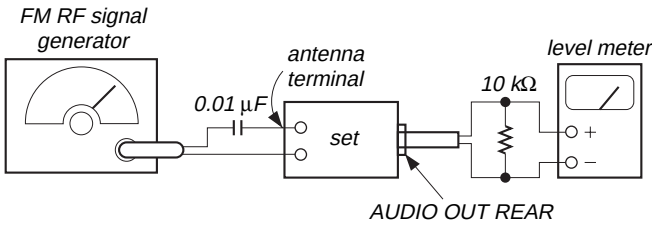


4. Adjust with the volume RV2 on TU1 so that the “FM” indication turns to “2” indication on the display window. But, in case of already indicated “2”, turn the RV2 so that put out light “2” indication and adjustment.
Display



Adjustment Location : See page 23.

FM Stereo Separation Adjustment
Setting :
SOURCE button : FM
FREQUENCY SELECT switch (E model) : FM 200k



Carrier frequency : 97.9 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main :1 kHz, 33.75 kHz deviation (45%)
sub :1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for maximum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for maximum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

Specification : Separation more than 28 dB

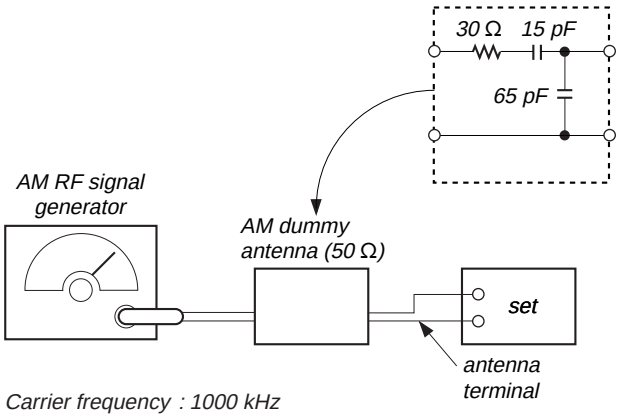
Adjustment Location : See page 23.

AM Auto Scan/Stop Level Adjustment

Note : This adjustment should be performed after the FM Auto Scan / Stop Level Adjustment is done.

Setting :

SOURCE → MODE button : AM
FREQUENCY SELECT switch (E model) : AM 10k

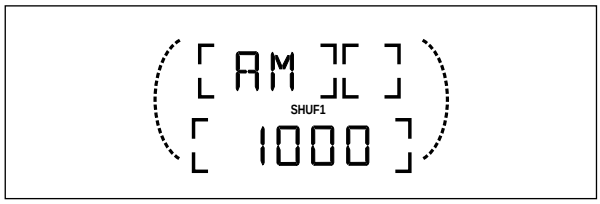


Carrier frequency : 1000 kHz
Output level : 30 dB (44.7 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure :

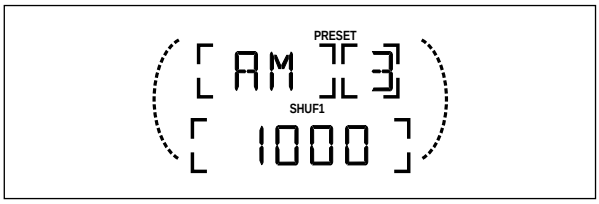
1. Set to the test mode. (See page 20.)
2. Push the SOURCE button.
3. Push the MODE button and set to AM.

Display



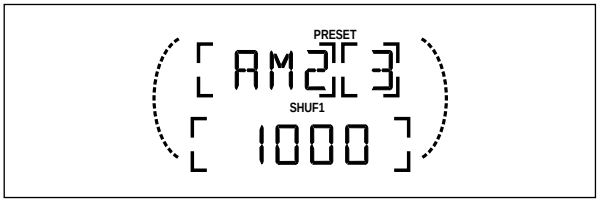
4. Push the preset 3 button.

Display



5. Adjust with the volume RV1 on TU1 so that the “AM” indication turns to “2” indication on the display window. But, in case of already indicated “2”, turn the RV1 so that put out light “2” indication and adjustment.

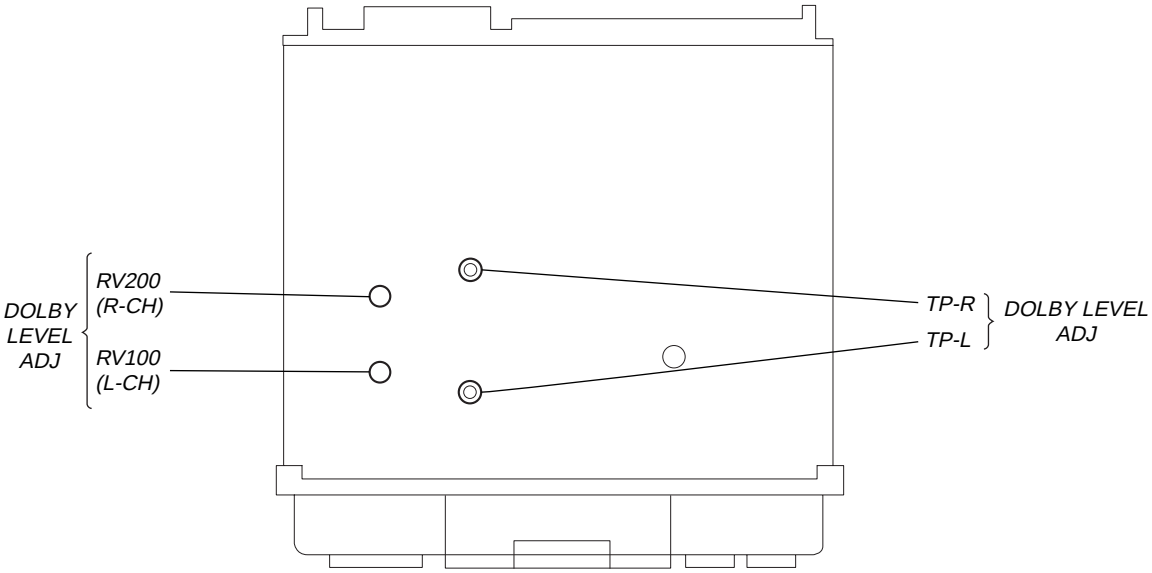
Display



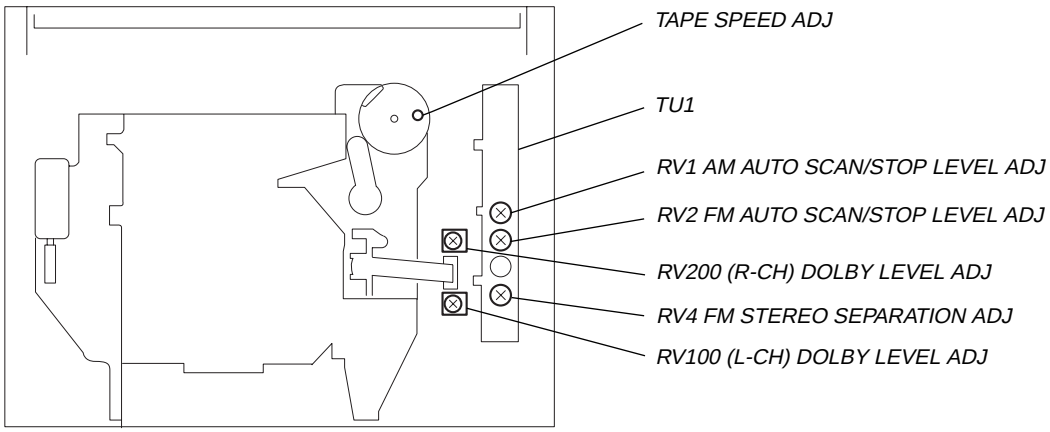
Adjustment Location : See page 23.

Adjustment Location :

– set lower view –



– set upper view –


TAPE SPEED ADJ
TU1
RV1 AM AUTO SCAN/STOP LEVEL ADJ
RV2 FM AUTO SCAN/STOP LEVEL ADJ
RV200 (R-CH) DOLBY LEVEL ADJ
RV4 FM STEREO SEPARATION ADJ
RV100 (L-CH) DOLBY LEVEL ADJ

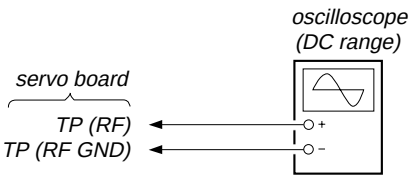
CD SECTION

Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

Focus Bias Adjustment

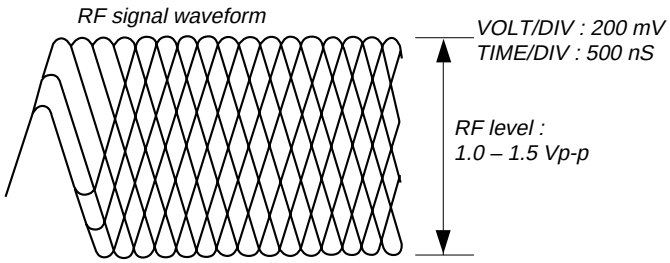
Setting : This adjustment is performed with the set placed horizontally.



Procedure :

1. Connect an oscilloscope between TP (RF) and TP (RF GND) on the servo board.
2. Connect the power supply.
3. Push the RESET button (SW701) on the control board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

Note : Clear RF signal waveform means that the sharp "◇" can be clearly distinguished at the center of the waveform.



• When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Adjustment Location : servo board

Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:

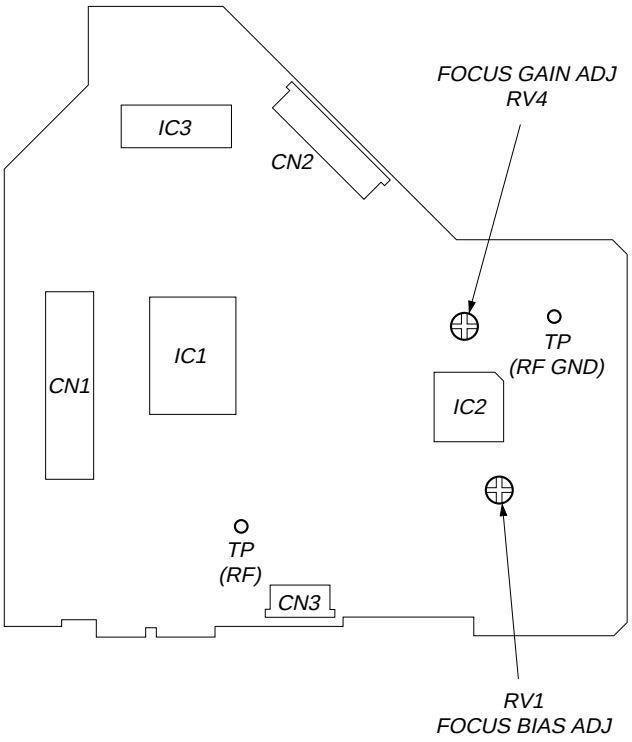
- Optical pick-up
- RV4

Procedure :

1. Set RV4 to the standard position. (mechanical center)
2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
   If the operation noise is too loud, turn RV4 slightly counter-clockwise.
   - If the gain is too low :
     Focus does not function and no music is selected.
   - If the gain is too high :
     Noise caused by scratches and dust is heard and the operation becomes unstable.

Adjustment Location : servo board

Adjustment Location : servo board (component side)



SECTION 6
DIAGRAMS

6-1. IC PIN DESCRIPTIONS

• IC500 µPD78058GC-B51-8BT (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	VSM	I	FM, AM common signal meter A/D conversion input
2	NIL	I	Not used. (Connect to ground in this set.)
3	SD-IN	I	Station detecter input (“H” : with SD)
4	AVSS	—	Analog ground
5	FM-ST	I	FM stereo input pin (“L” : stereo)
6	AM-ST	I	AM stereo input pin (“L” : stereo)
7	AVREF	—	Reference power supply for D/A conversion.
8	PLL-SI	I	PLL serial data input
9	PLL-SO	O	PLL serial data output
10	PLL-CKO	O	PLL serial clock output
11	PLL-CE	O	PLL serial chip enable output
12	$\overline{\text{AMS}}$	I	Music with/without detection input at AMS. (“L” : with music, “H” : without music)
13	PLAY/$\overline{\text{AMS}}$	O	Tape AMS control output
14	F/$\overline{\text{R}}$	O	FWD/REV detection output (“H” : FWD, “L” : REV)
15	MTL	O	Metal control output (“H” : metal)
16	BUS-SI	I	Uni-link serial interface data input
17	BUS-SO	O	Uni-link serial interface data output
18	BUS-CKI	I	Uni-link serial interface clock input
19	BUS-CKO	O	Uni-link serial interface clock output
20	TAPE-MUTE	O	Tape mute control output
21	DOLON	I/O	Dolby control input/output
22	EQ-CE	O	Equalizer serial chip enable output (Not used in this set.)
23	EQ-CLK	O	Equalizer serial clock output (Not used in this set.)
24	DATA	O	Serial data output
25	VOL-CLK	O	Electronic volume serial clock output
26	VOL-CE	O	Electronic volume serial chip enable output
27	MUT	O	System mute control output
28	AMP-ON	O	Power amplifier power supply control output
29	AUX-MUT	O	AUX mute control output
30	C/$\overline{\text{B}}$	I/O	Dolby B/C select control output (Not used in this set.)
31	PWR-SEL	I	Power select initial setting input
32	TEST	I	Test mode setting input
33	VSS	—	Ground
34	NIL	I	Not used. (Connect to ground in this set.)
35	POWER-ON	O	System power supply control output
36	TUN-ON	O	Tuner power supply control output
37	FM-ON	O	FM power supply control output
38	AM-ON	O	AM power supply control output (Not used in this set.)
39	NIL	I	Not used. (Connect to ground in this set.)
40	CM-ON	O	Capstan motor control output
41	TP-ON	O	Tape power supply control output
42	LM-EJ	O	Loading motor control output (Eject direction)
43	LM-LOD	O	Loading motor control output (Loading direction)
44, 45	POS1, 0	I	Position signal detection input 1, 0
46	BEEP	O	Buzzer control output
47, 48	POS2, 3	I	Position signal detection input 2, 3
49	REL	I	Reel stand rotation detection input
50	RC-IN1	I	Rotary commander A/D conversion input 1
51	SUB-CE	O	Sub serial chip enable output (Not used in this set.)
52	SUB-DATA	O	Sub serial data output (Not used in this set.)
53	SUB-CLK	O	Sub serial clock output (Not used in this set.)

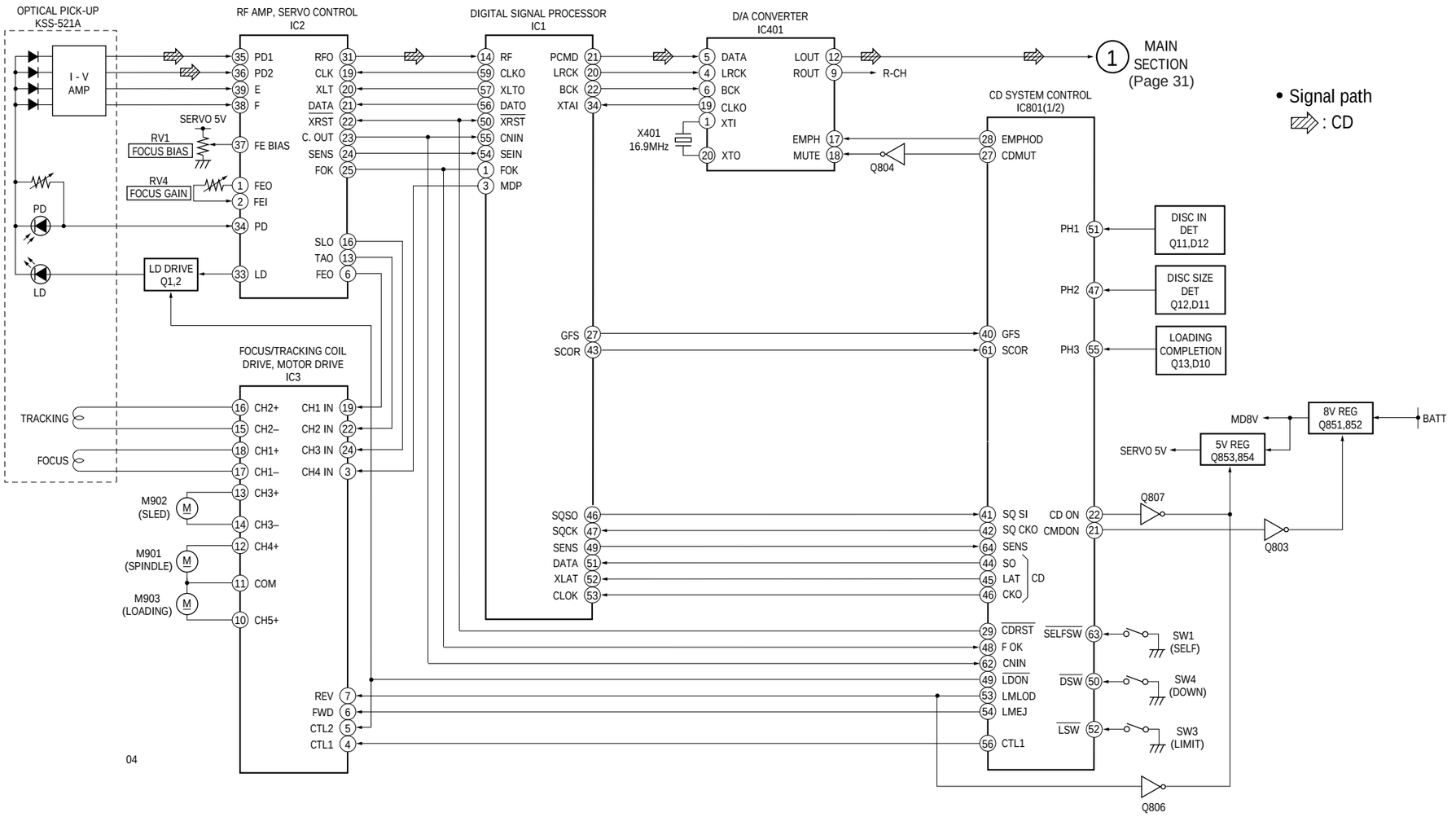
Pin No.	Pin Name	I/O	Pin Description
54	SYS-RST	O	System reset signal output
55	BUS-ON	O	Bus ON control output
56, 57	RE1, 0	I	Rotary encoder input 1, 0
58	AD-ON	O	Power supply output for A/D conversion.
59	RAMBU	I	RAM reset detection input
60	RESET	—	Reset input
61	SIRCS	I	Remote control input (Not used in this set.)
62	BU-IN	I	Backup power detection input
63	NIL	—	Not used (Connect to ground in this set.)
64	ACC-IN	I	Accessory power supply detection input
65	DIMMER	I	Dimmer control input
66	TEL-MUTE	I	Telephone mute control input
67	KEY-ACK	I	Key input acknowledge
68	VDD	—	µ-con power supply
69	X2	O	Main ceramic oscillator output (5 MHz)
70	X1	I	Main ceramic oscillator input (5 MHz)
71	IC	—	Connect to ground in this set.
72	XT2	O	Sub crystal oscillator output (32.768 kHz)
73	XT1	I	Sub crystal oscillator input (32.768 kHz)
74	AVDD	—	Power supply for A/D conversion.
75	AVREF	—	Reference power supply for A/D conversion.
76, 77	KEY-IN0, 1	I	Key input 0, 1
78	KEY-IN2	I	Key input 2 (Not used in this set.)
79	RC-IN0	I	Rotary commander A/D conversion input 0
80	DSTSEL	I	Initial setting input of destination. (“H” : US model, “L” : E model)

• IC801 µPD78054GC-A32-8BT (CD SYSTEM CONTROL)

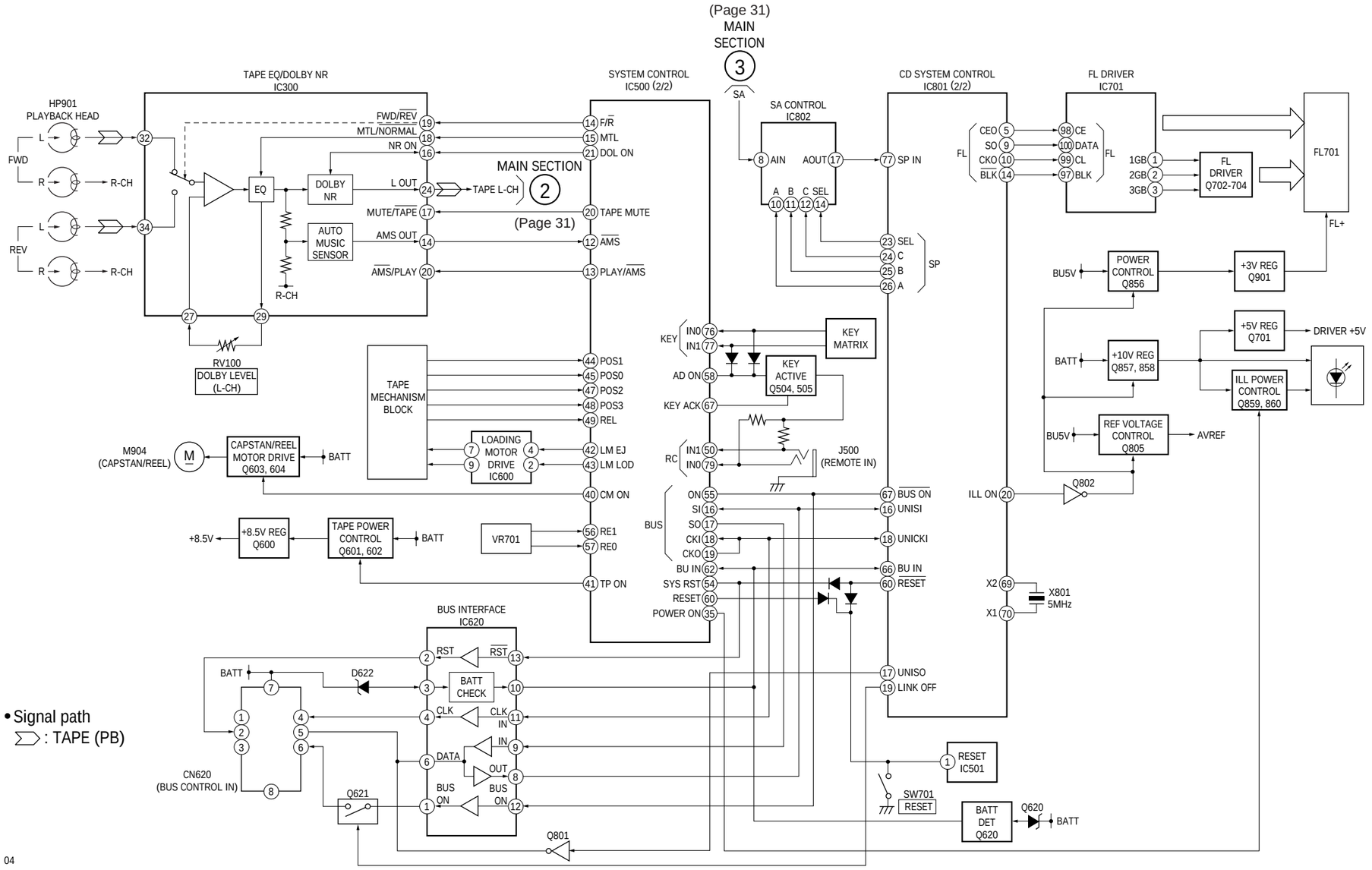
Pin No.	Pin Name	I/O	Pin Description
1	LEDCLK	—	Not used in this set.
2	LEDCKO	—	Not used in this set.
3	LEDSO	—	Not used in this set.
4	AVSS	—	Analog ground
5	FL-CE0	O	Display driver chip select output 0
6	FL-CE1	O	Display driver chip select output 1 (Not used in this set.)
7	AVREF1	—	Reference power supply for D/A conversion.
8	$\overline{\text{FL-RST}}$	O	Display driver reset output (Not used in this set.)
9	FL-SO	O	Display driver data output
10	FL-CKO	O	Display driver clock output
11	SRDT	—	Not used in this set.
12	NCO	—	Not used.
13	SCLK	—	Not used in this set.
14	$\overline{\text{FL-BLK}}$	O	Display driver blank control output
15	NIL	—	Not used. (Connect to ground in this set.)
16	UNISI	I	Uni-link serial interface data input
17	UNISO	O	Uni-link serial interface data output
18	UNICKI	I	Uni-link serial interface clock input
19	LINKOFF	O	Link off output
20	ILLON	O	Illumination power supply control output
21	CMDON	O	CD mechanism power supply control output
22	CD-ON	O	CD power supply control output
23	SP-SEL	O	Signal (L/R channel) select control signal output to spectrum analyzer control IC.
24	SP-C	O	Frequency select control signal output to spectrum analyzer control IC.
25	SP-B	O	Frequency select control signal output to spectrum analyzer control IC.
26	SP-A	O	Frequency select control signal output to spectrum analyzer control IC.
27	CDMUT	O	CD mute control output
28	EMPH-O	O	Emphasis control output
29	$\overline{\text{CD-RST}}$	O	CD signal process IC reset output
30	XMODE	—	Not used in this set.
31, 32	NIL	—	Not used. (Connect to ground in this set.)
33	VSS	—	Ground
34	TBTGSEL	I	CD tracking balance, tracking gain auto adjustment select input.
35 – 39	NIL	—	Not used. (Connect to ground in this set.)
40	GFS	I	GFS signal detection input
41	SQ-SI	I	SUB Q data input
42	SQ-CKO	O	SUB Q clock output
43	NIL	—	Not used. (Connect to ground in this set.)
44	CD-SO	O	CD signal process serial data output
45	CD-LAT	O	CD signal process latch output
46	CD-CKO	O	CD signal process serial clock output
47	PH2	I	8/12 cm disc detection input
48	F-OK	I	Focus signal detection input
49	$\overline{\text{LD-ON}}$	O	Laser on/off select control output
50	$\overline{\text{D-SW}}$	I	Down switch detection input
51	PH1	I	Disc insert detection input
52	$\overline{\text{L-SW}}$	I	Sled limit switch input
53	LM-LOD	O	Loading motor control output (Loading direction)
54	LM-EJ	O	Loading motor control output (Eject direction)
55	PH3	I	Disc detect sensor input
56	CTL1	O	Driver IC control output
57	NCO	—	Not used.

Pin No.	Pin Name	I/O	Pin Description
58	EESIO	O	Not used in this set.
59	EECKO	O	Not used in this set.
60	$\overline{\text{RESET}}$	—	Reset input
61	SCOR	I	SCOR signal detection input
62	CNIN	I	Track jump count input
63	$\overline{\text{SELF-SW}}$	I	Disc self store detection input
64	SENS	I	SENS signal detection input
65	DQSY	—	Not used in this set.
66	BUIN	I	Backup power supply detection input
67	$\overline{\text{BUSON}}$	I	Bus on control input
68	VDD	—	µ-con power supply
69	X2	O	Main ceramic oscillator output (5 MHz)
70	X1	I	Main ceramic oscillator input (5 MHz)
71	IC	—	Not used. (Not used in this set.)
72	XT2	O	Sub crystal oscillator output (Not used in this set.)
73	XT1	I	Sub crystal oscillator input (Connect to ground in this set.)
74	AVDD	—	Power supply for A/D conversion.
75	AVREF	—	Reference power supply for A/D conversion.
76	NIL	—	Not used. (Connect to ground in this set.)
77	SP-IN	I	Spectrum analyzer control signal input from spectrum analyzer control IC.
78	TSTIN0	I	LOAD/EJECT prohibition setting input
79	NCO	—	Not used.
80	$\overline{\text{LEDOE}}$	—	Not used in this set.

6-2. BLOCK DIAGRAM — CD SECTION —



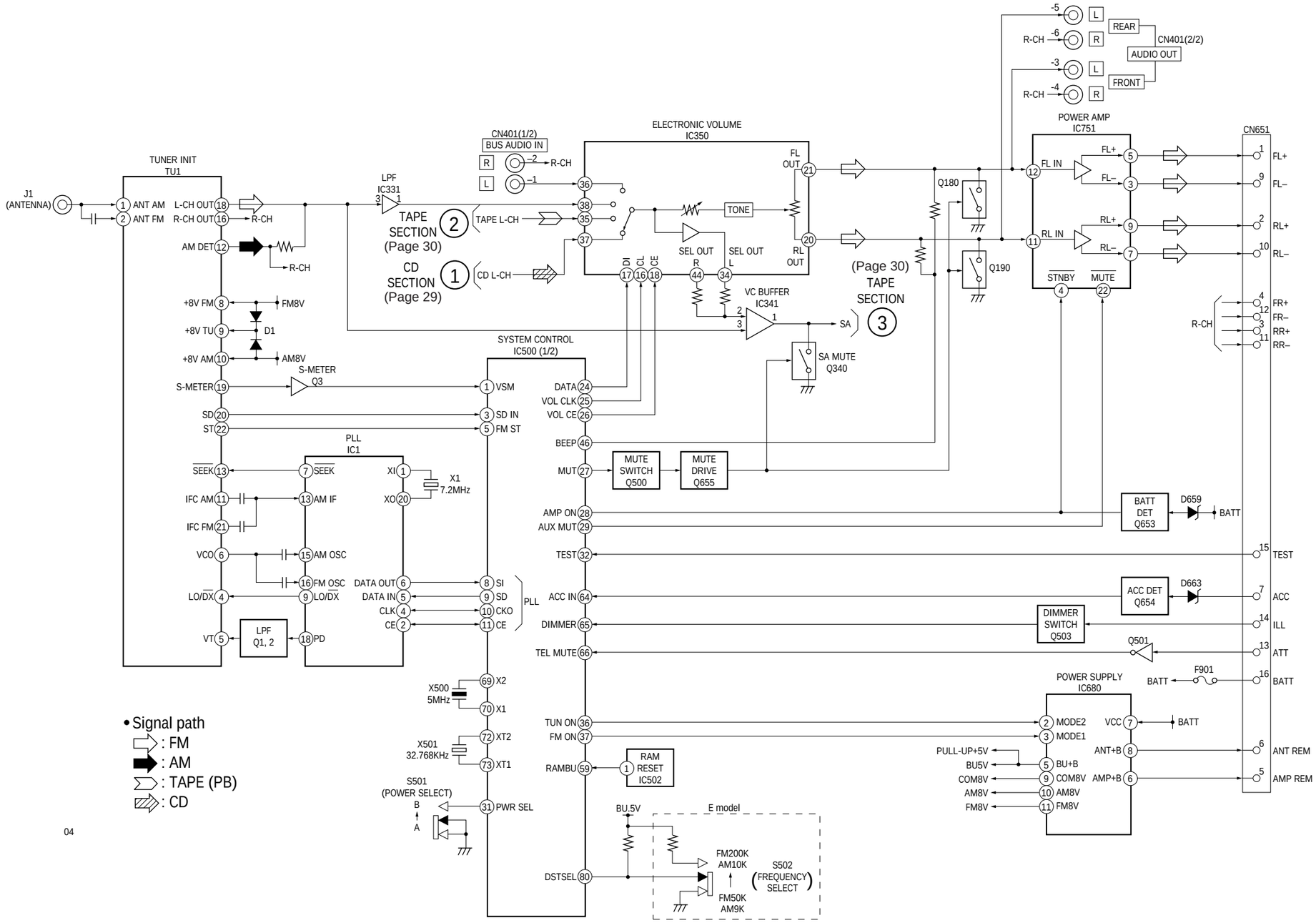
6-3. BLOCK DIAGRAM — TAPE SECTION —



- Signal path
  : TAPE (PB)

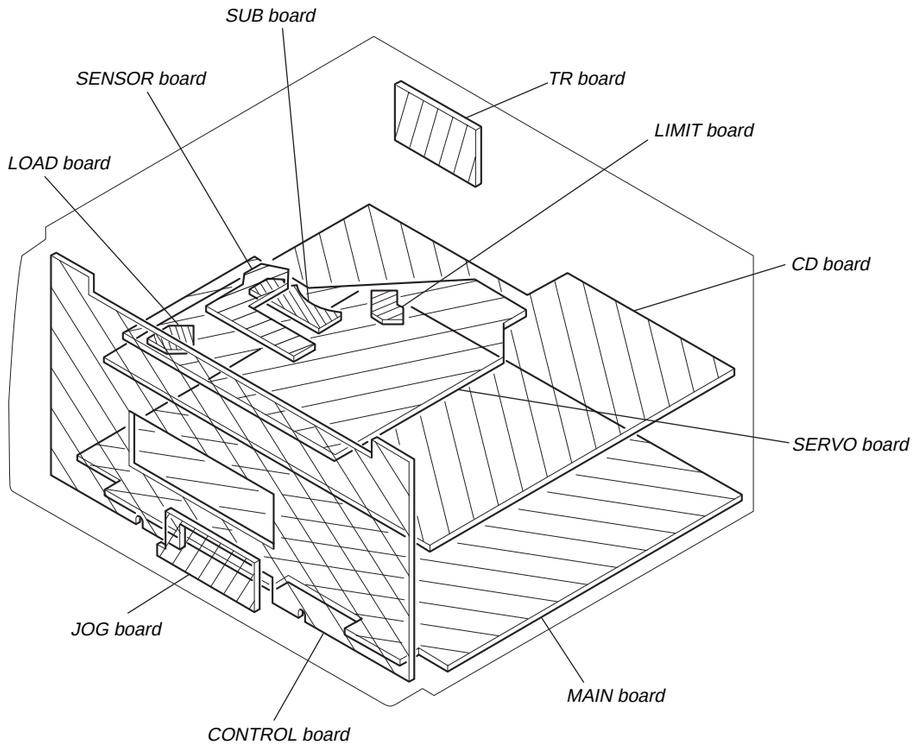
04

6-4. BLOCK DIAGRAM — MAIN SECTION —



04

6-5. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

Note on Printed Wiring Boards:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

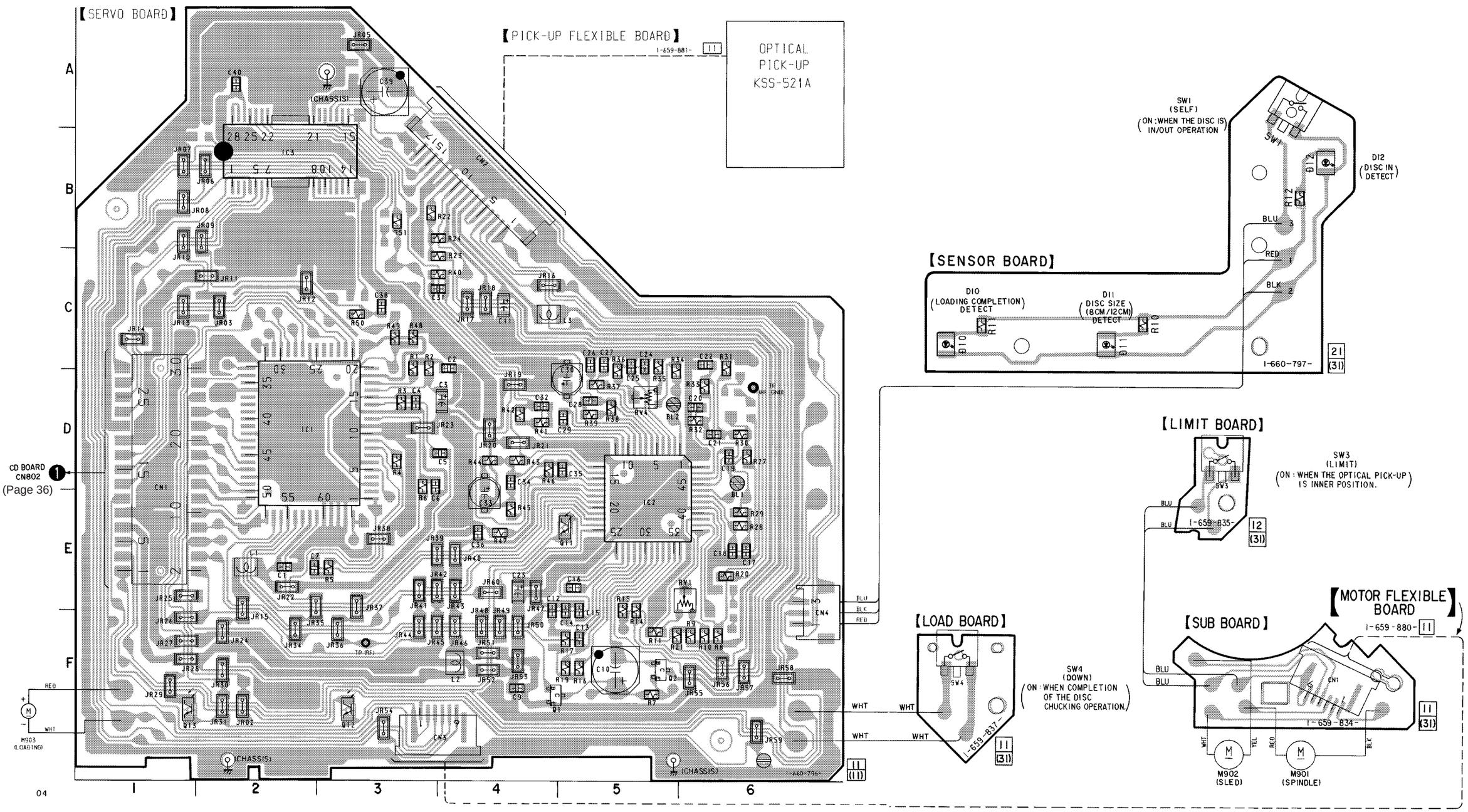
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B + : B+ Line.
- ▬ : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : FM
  - ➡ : AM
  - ⇨ : TAPE (PB)
  - ⇨ : CD

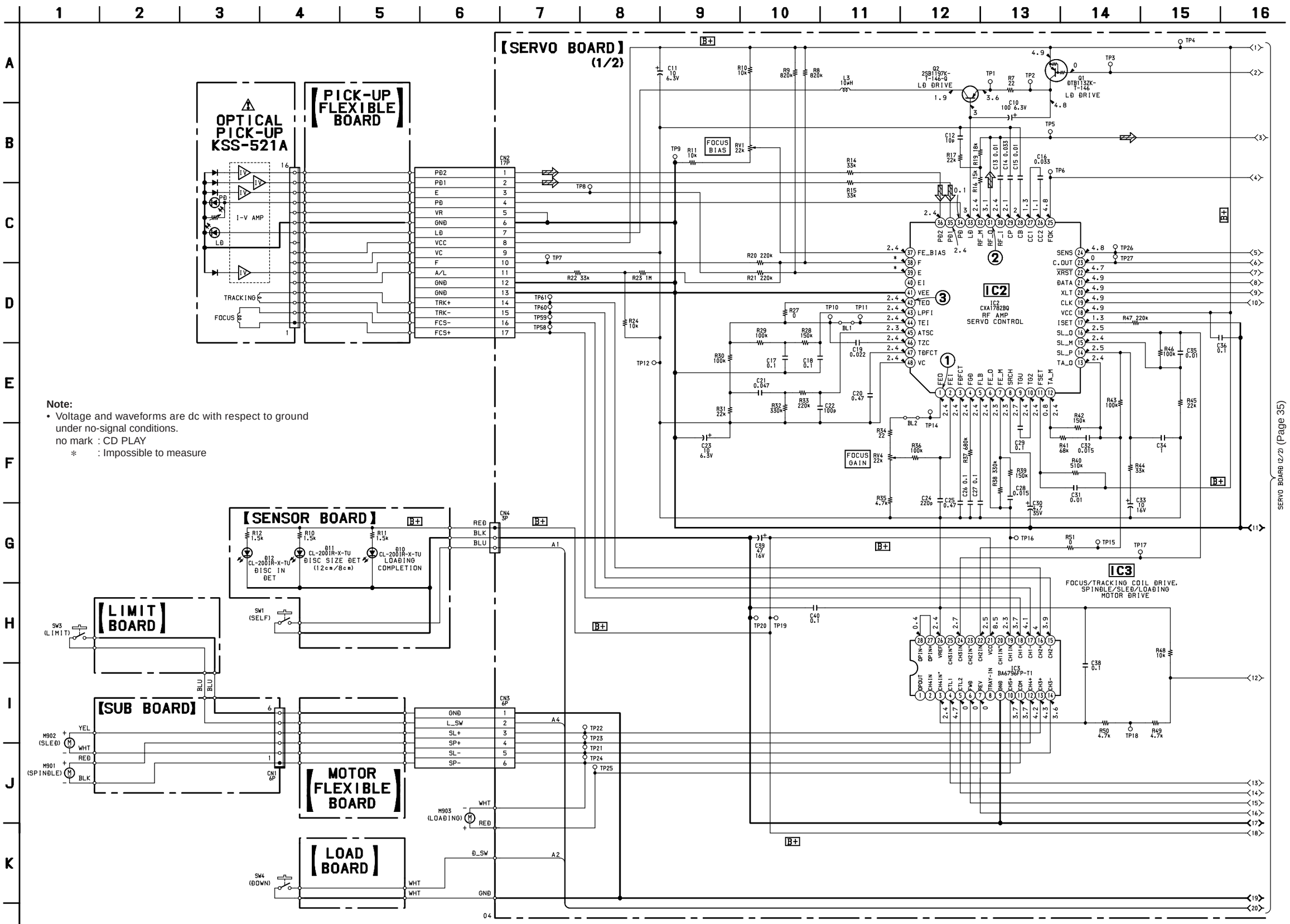
• Semiconductor Location (SERVO Board)

Ref. No.	Location
IC1	D-2
IC2	E-5
IC3	B-2
Q1	F-4
Q2	F-5
Q11	E-5
Q12	F-3
Q13	F-1

6-6. PRINTED WIRING BOARDS — CD MECHANISM SECTION —



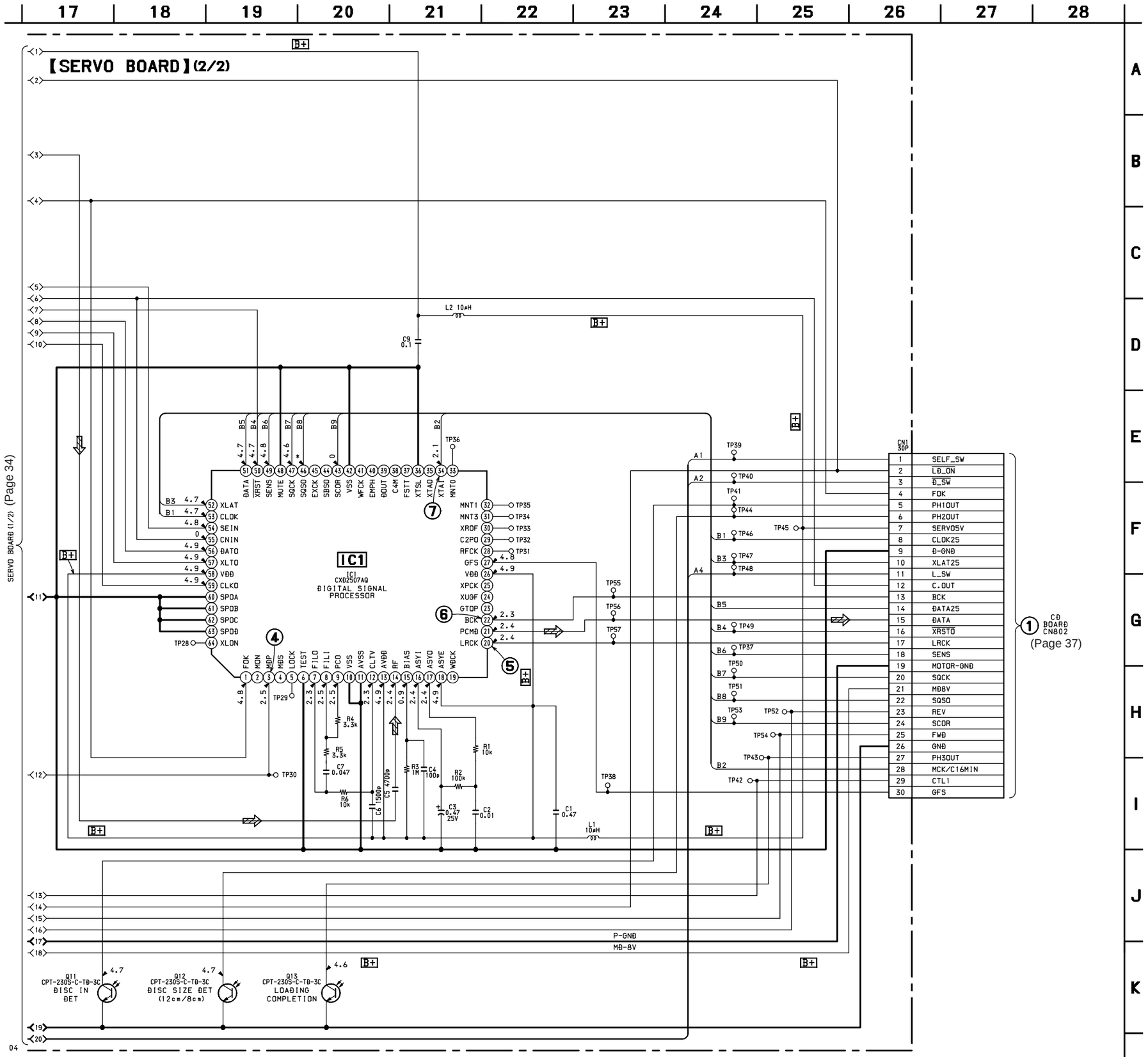
6-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION (1/2) — • Refer to page 35 for Waveforms and page 48 for IC Block Diagrams.



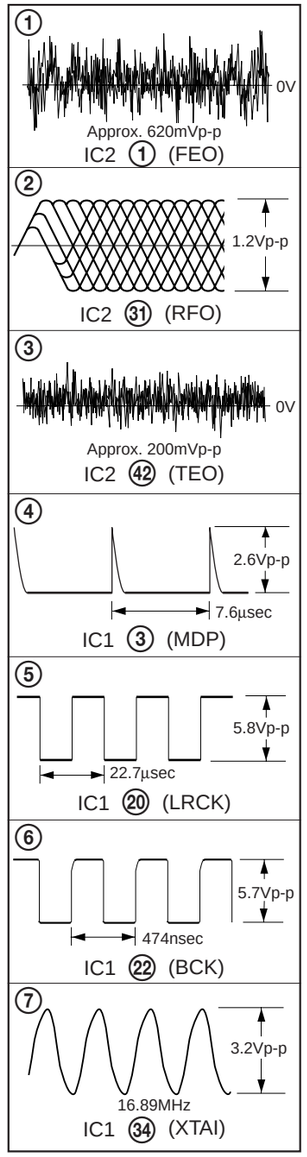
Note:

- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure

6-8. SCHEMATIC DIAGRAM — CD MECHANISM SECTION (2/2) — • Refer to page 48 for IC Block Diagrams.

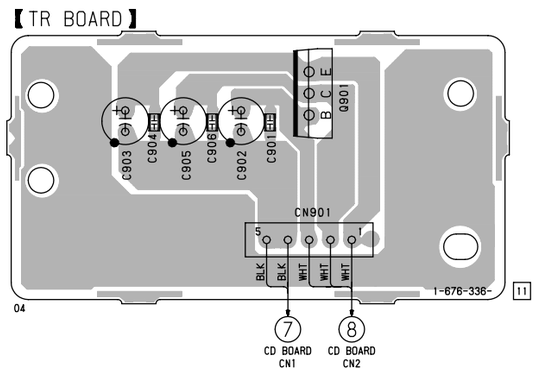


• **Waveforms**
(MODE : CD PLAY)

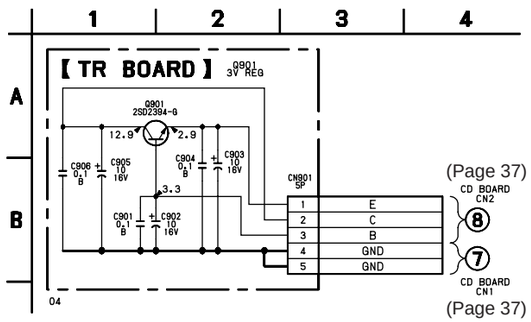


Note:
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY

6-9. PRINTED WIRING BOARD — TR SECTION —



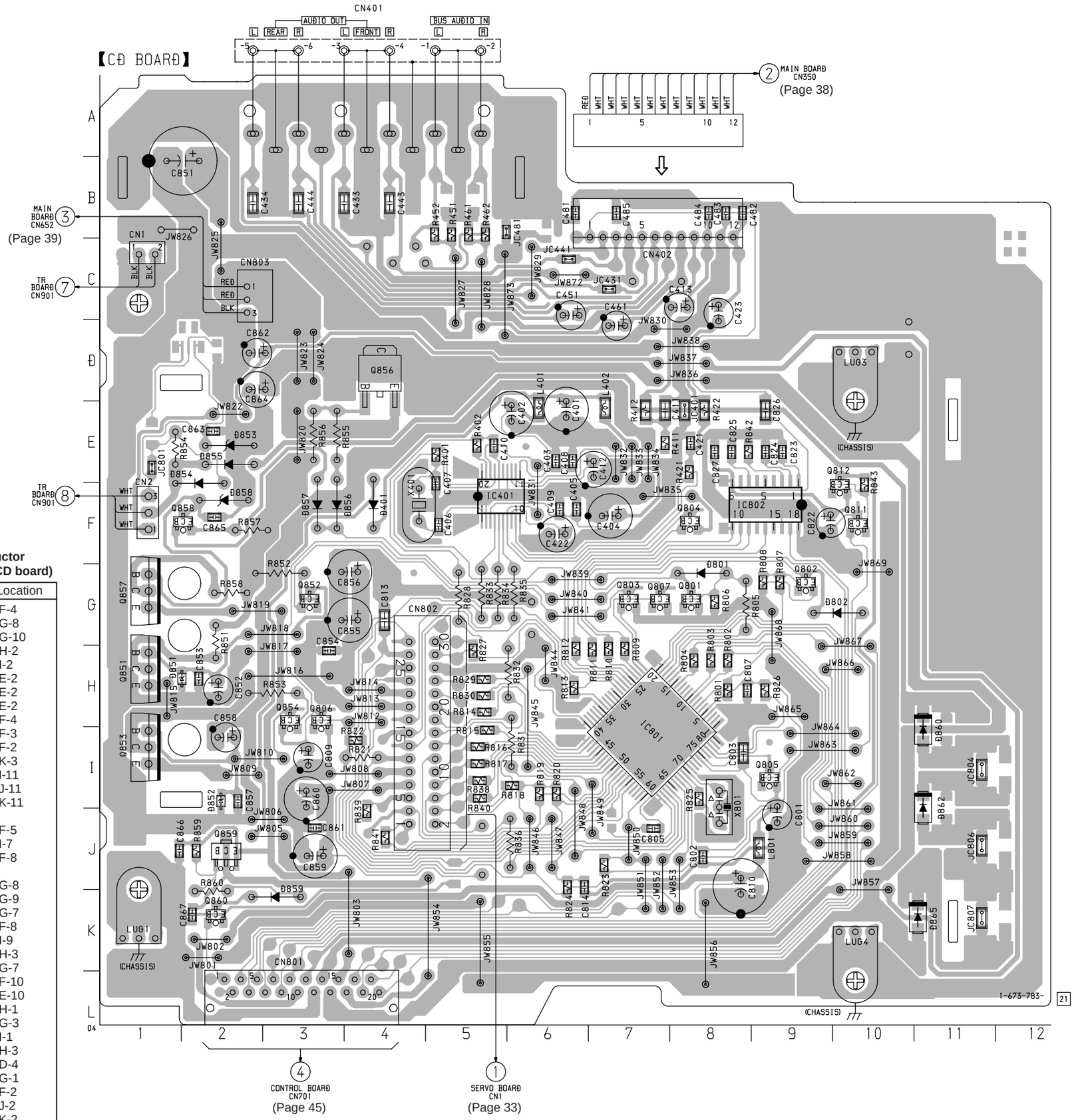
6-10. SCHEMATIC DIAGRAM — TR SECTION —



Note:

- Voltage is dc with respect to ground under no-signal conditions.
  no mark : CD PLAY

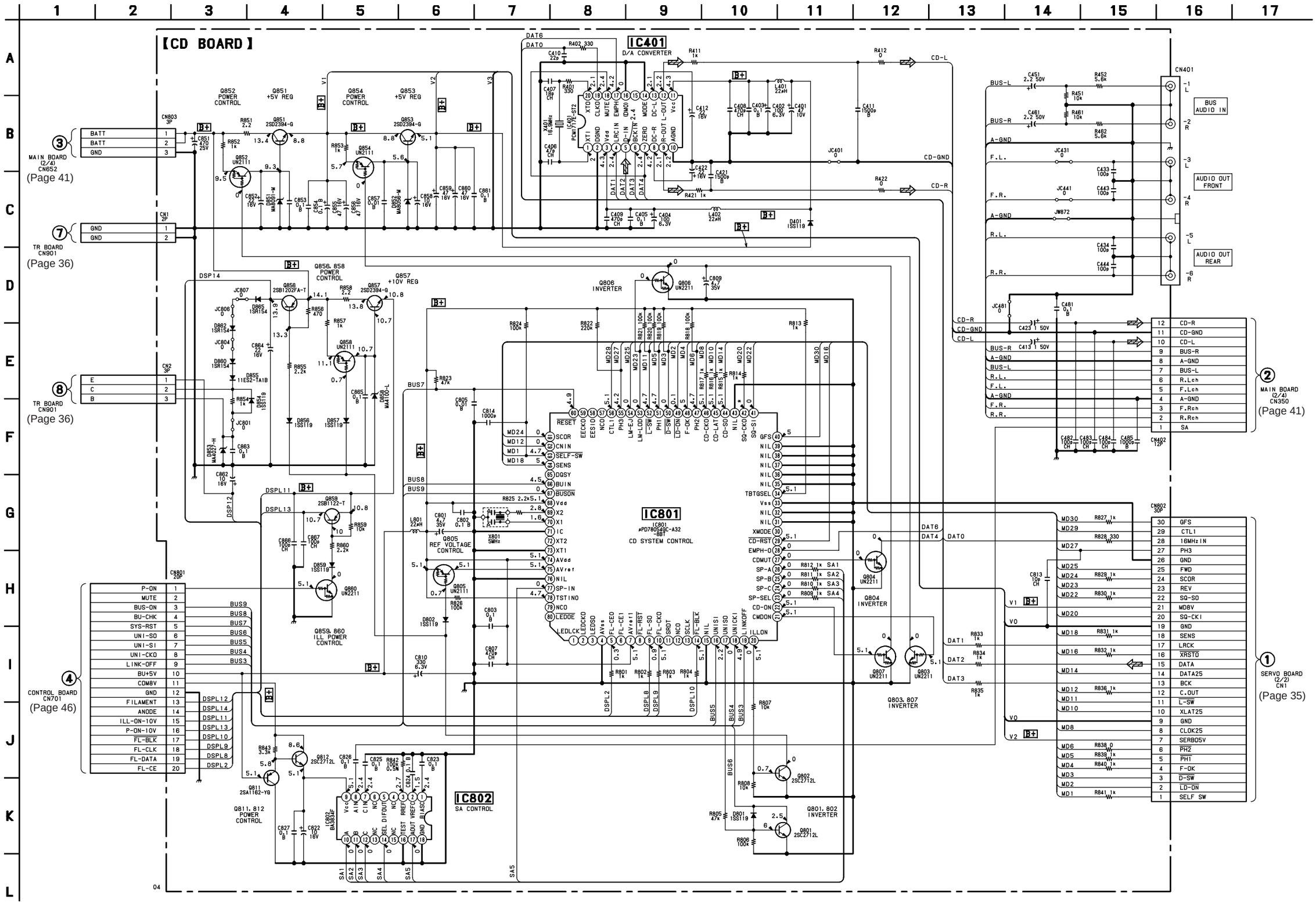
6-11. PRINTED WIRING BOARD — CD SECTION —



- **Semiconductor Location (CD board)**

Ref. No.	Location
D401	F-4
D801	G-8
D802	G-10
D851	H-2
D852	I-2
D853	E-2
D855	E-2
D855	E-2
D856	F-4
D857	F-3
D858	F-2
D859	K-3
D860	I-11
D862	J-11
D865	K-11
IC401	F-5
IC801	I-7
IC802	F-8
Q801	G-8
Q802	G-9
Q803	G-7
Q804	F-8
Q805	I-9
Q806	H-3
Q807	G-7
Q811	F-10
Q812	E-10
Q851	H-1
Q852	G-3
Q853	I-1
Q854	H-3
Q856	D-4
Q857	G-1
Q858	F-2
Q859	J-2
Q860	K-2

6-12. SCHEMATIC DIAGRAM — CD SECTION — • Refer to page 51 for IC Block Diagrams.



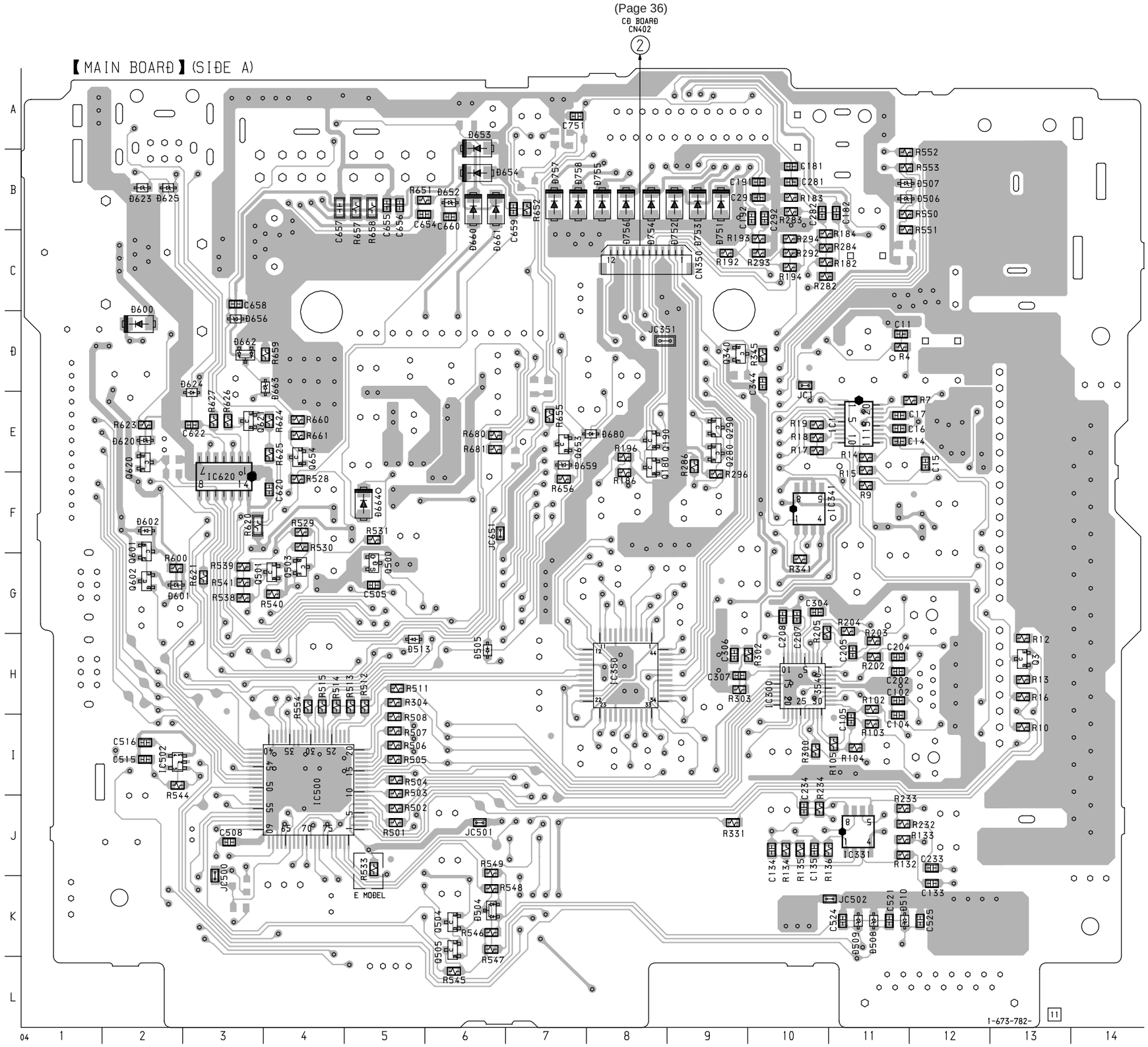
Note:
- Voltage is dc with respect to ground under no-signal condition.
  no mark : CD PLAY

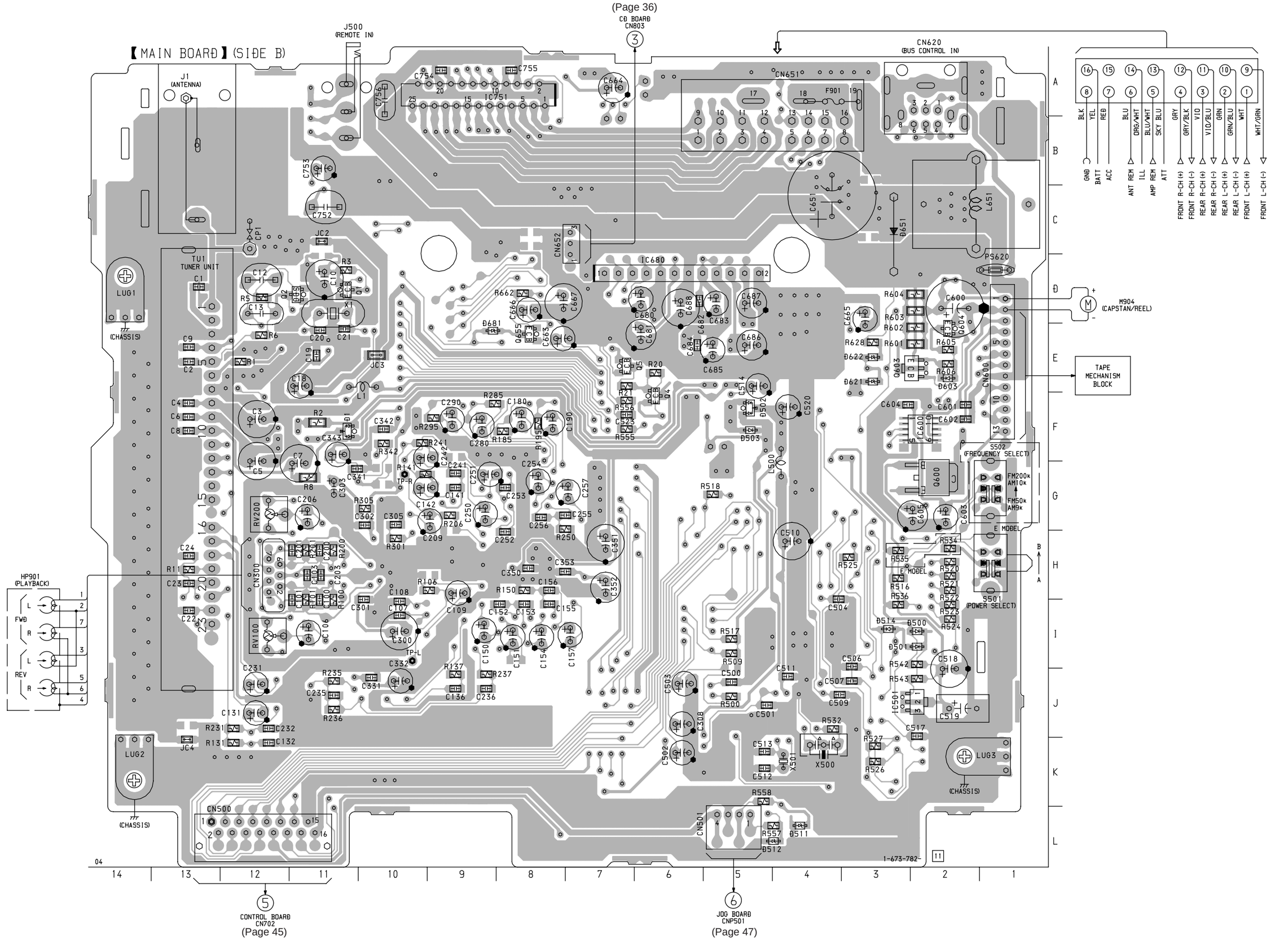
6-13. PRINTED WIRING BOARD — MAIN SECTION —

• **Semiconductor Location**

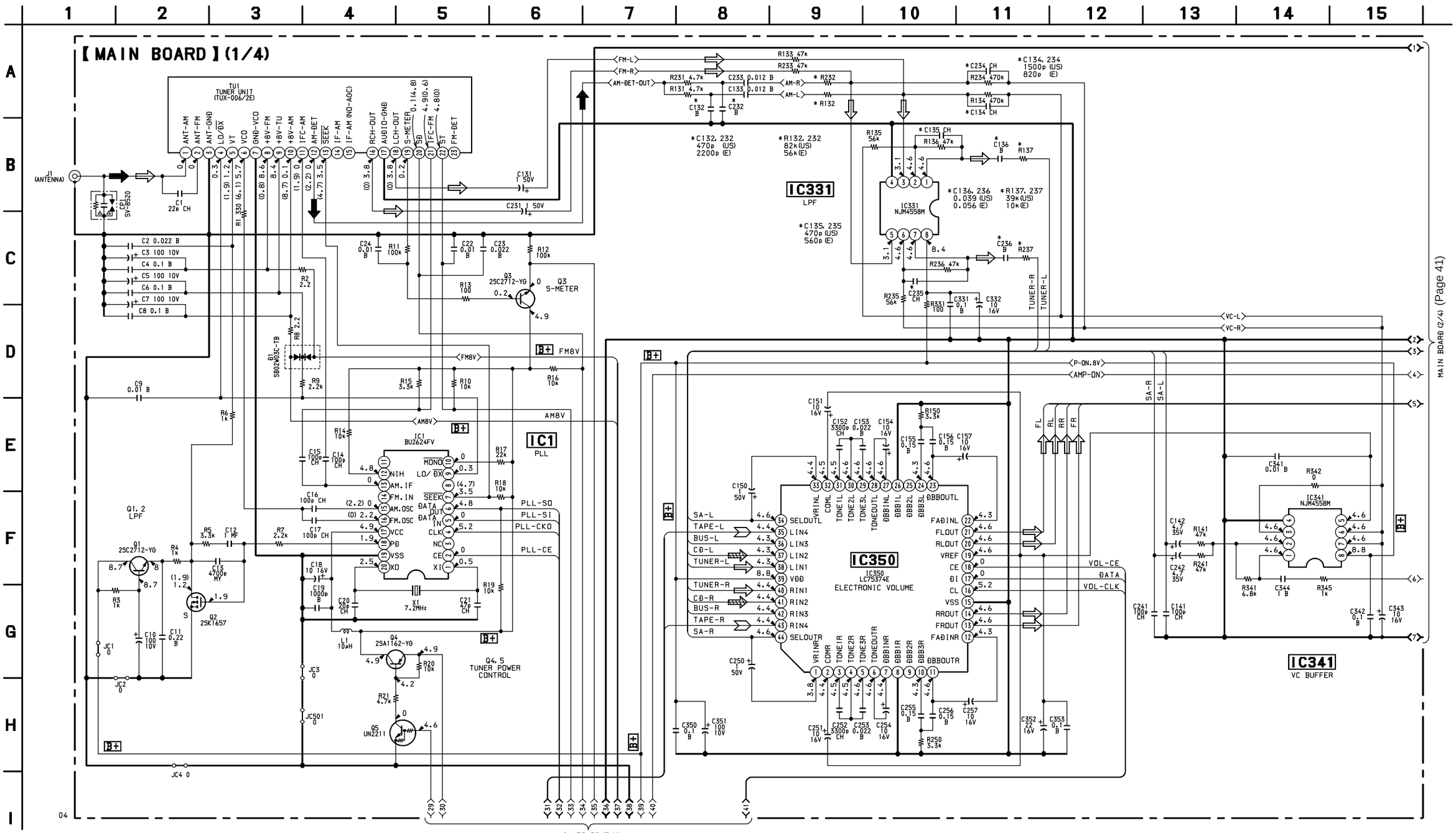
Ref. No.	Location	Ref. No.	Location
(D1)	F-11	D755	B-8
(D500)	I-2	D756	C-8
(D501)	J-3	D757	B-7
(D502)	F-5	D758	B-7
(D503)	F-5		
D504	K-6	IC1	E-11
D505	H-6	IC300	H-10
D506	B-12	IC331	J-11
D507	B-12	IC341	F-11
D508	K-11	IC350	H-8
D509	K-11	IC500	J-4
D510	K-11	(IC501)	J-3
(D511)	L-4	IC502	I-2
(D512)	L-5	(IC600)	F-2
D513	H-5	IC620	F-3
(D514)	I-3	(IC680)	D-6
D600	D-2	(IC751)	A-9
D601	G-2		
D602	F-2	(Q1)	D-11
(D603)	E-2	(Q2)	D-12
D620	E-2	Q3	H-13
(D621)	E-3	(Q4)	F-6
(D622)	E-3	(Q5)	E-6
D623	B-2	Q180	E-8
D624	D-3	Q190	E-8
D625	B-2	Q280	E-9
(D651)	C-3	Q290	E-9
D652	B-6	Q340	D-9
D653	A-6	Q500	G-5
D654	B-6	Q501	G-3
D656	D-3	Q503	G-4
D659	E-7	Q504	K-6
D660	C-6	Q505	K-6
D661	C-6	(Q600)	G-2
D662	D-3	Q601	G-2
D663	D-4	Q602	G-2
D664	F-5	(Q603)	E-3
D680	E-8	(Q604)	E-2
(D681)	E-9	Q620	E-2
D751	C-9	Q621	E-3
D752	C-9	Q653	E-7
D753	C-9	Q654	E-4
D754	C-8	(Q655)	E-8

( ) : SIDE B



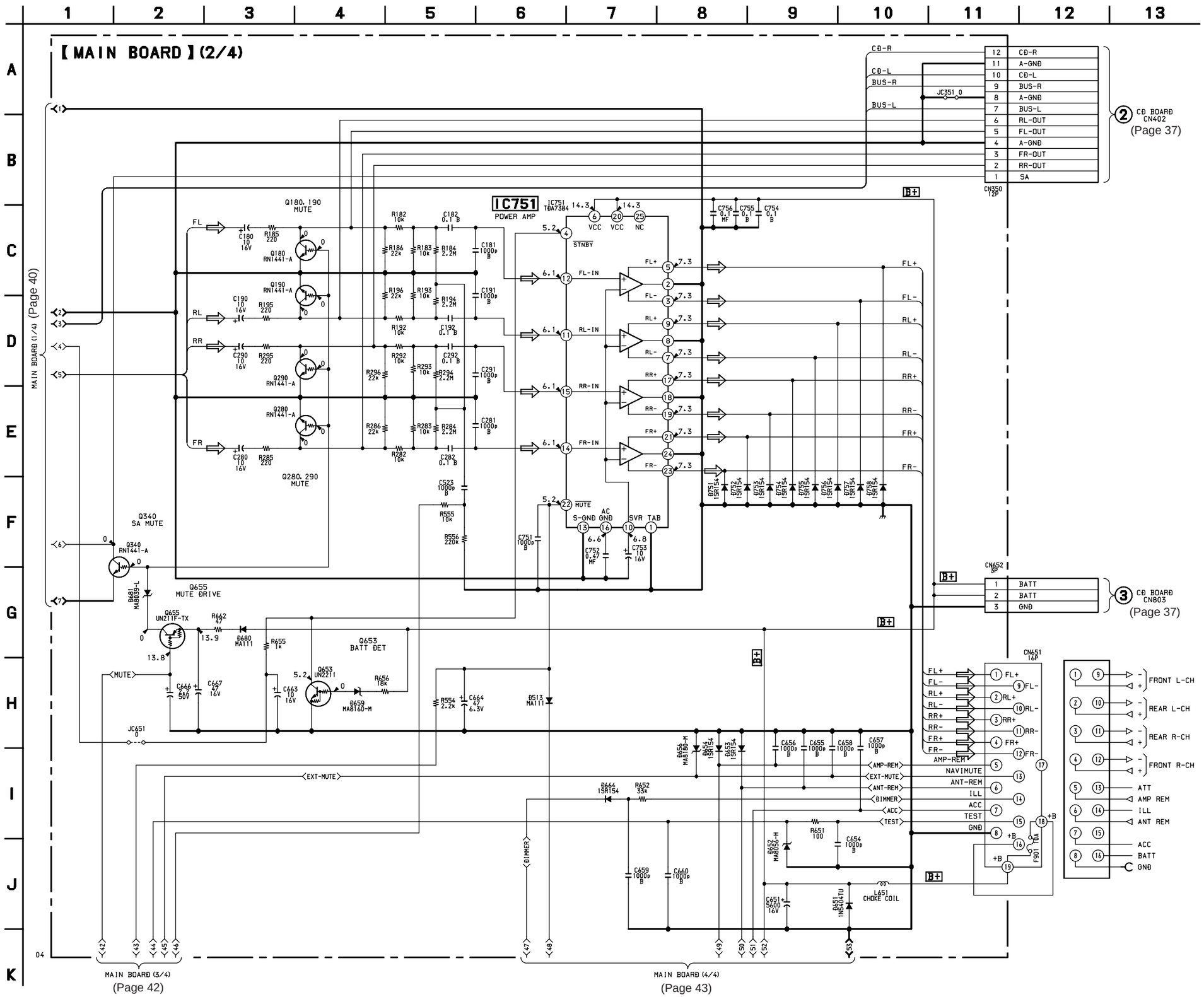

【MAIN BOARD】(SIDE B)
(Page 36)
CD BOARD CN803
J500 (REMOTE IN)
CN620 (BUS CONTROL IN)
J1 (ANTENNA)
TU1 TUNER UNIT
LUG1
(CHASSIS)
IC680
IC751
CN651
F901
CN652
PS620
M904 (CAPSTAN/REEL)
TAPE MECHANISM BLOCK
S502 (FREQUENCY SELECT)
FM200k AM10k
FM50k AM9k
E MODEL
S501 (POWER SELECT)
HP901 (PLAYBACK)
FWD
REV
LUG2
LUG3
CN500
CN501
CN300
RV200
RV100
X500
Q600
BLK
YEL
RED
BLU
ORG/WHT
BLU/WHT
SKY BLU
GRY
GRY/BLK
VIO
VIO/BLU
GRN
GRN/BLU
WHT
WHT/GRN
GND
BATT
ACC
ANT REM
ILL
AMP REM
ATT
FRONT R-CH (+)
FRONT R-CH (-)
REAR R-CH (+)
REAR R-CH (-)
REAR L-CH (+)
REAR L-CH (-)
FRONT L-CH (+)
FRONT L-CH (-)
1-673-782-
CONTROL BOARD CN702
(Page 45)
JOG BOARD CNP501
(Page 47)

6-14. SCHEMATIC DIAGRAM — MAIN SECTION (1/4) — • Refer to page 50 for IC Block Diagrams.



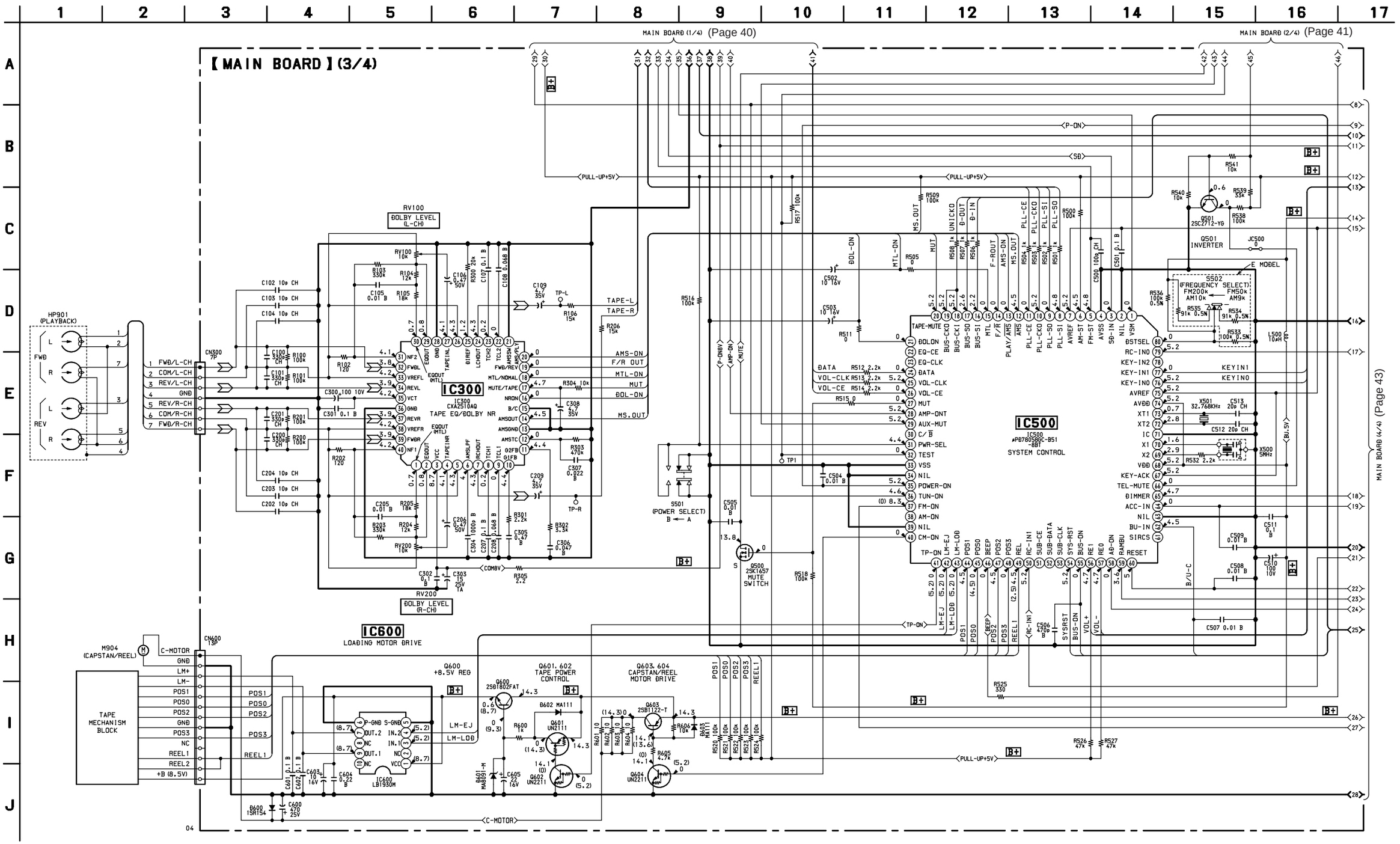
Note:
- Voltage is dc with respect to ground under no-signal condition.
  no mark : FM
  ( ) : AM

6-15. SCHEMATIC DIAGRAM — MAIN SECTION (2/4) —



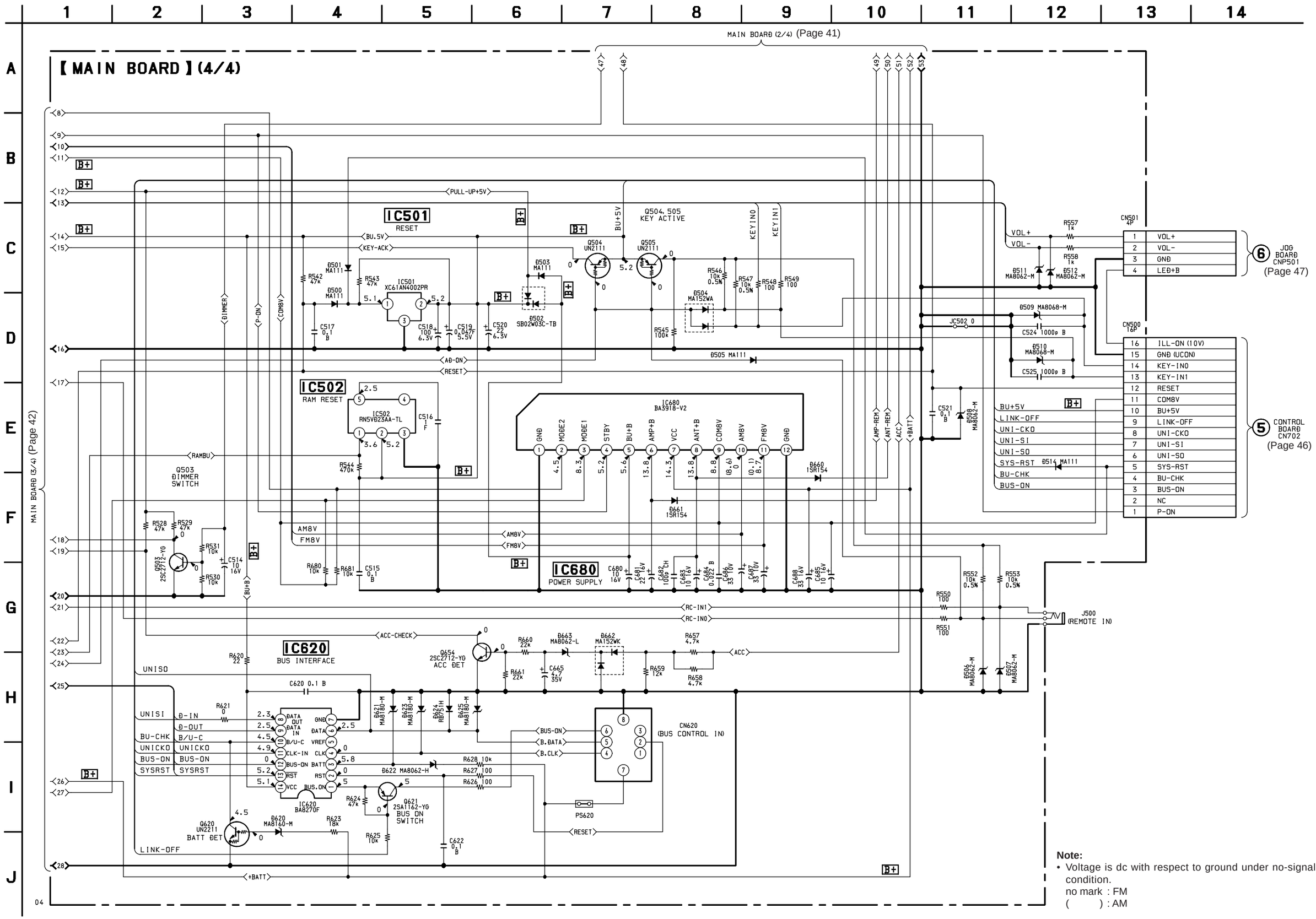
Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

6-16. SCHEMATIC DIAGRAM — MAIN SECTION (3/4) — • Refer to page 50 for IC Block Diagrams.



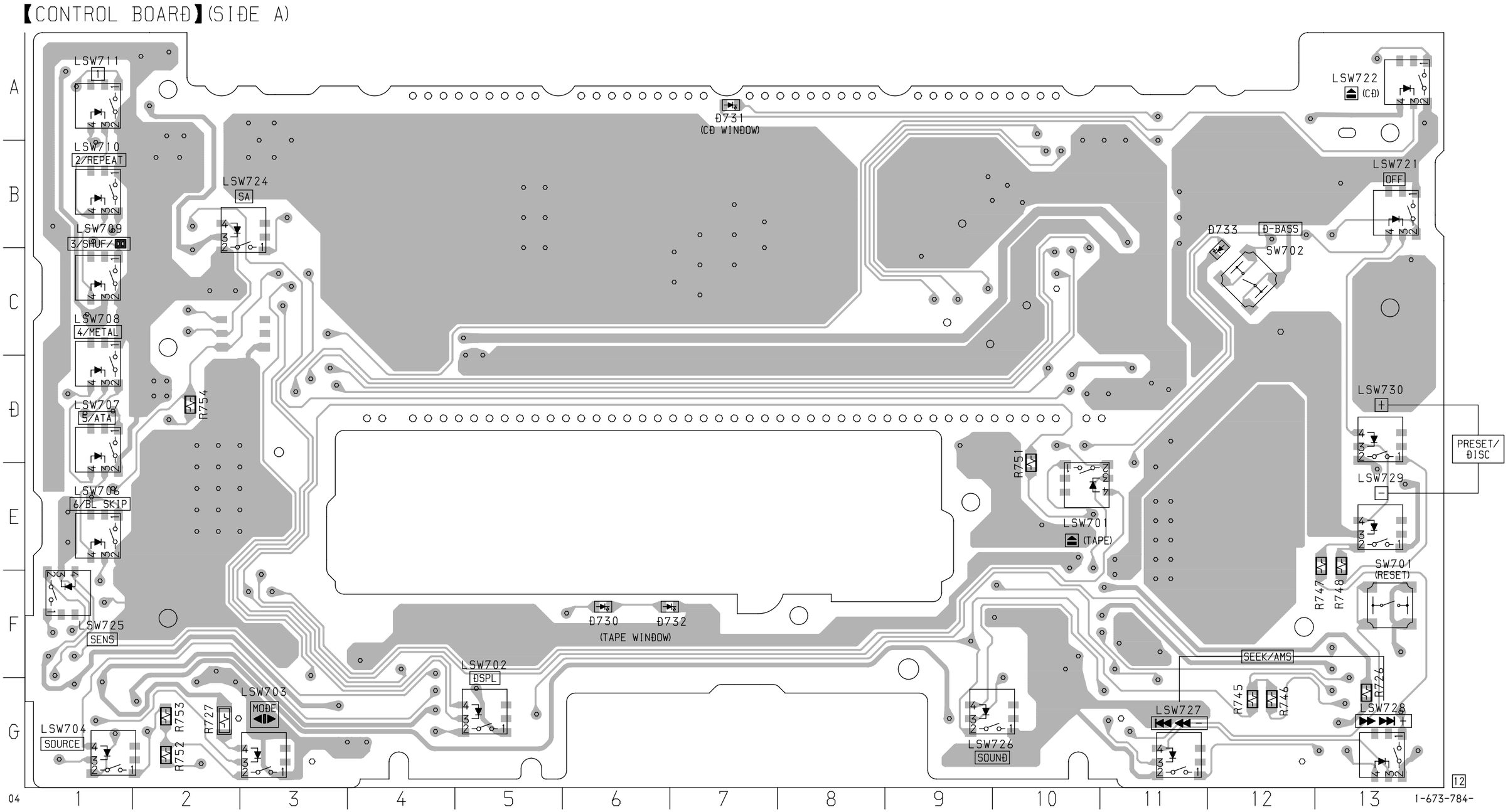
Note:
- Voltage is dc with respect to ground under no-signal condition.
  no mark : FM
  ( ) : TAPE PLAY

6-17. SCHEMATIC DIAGRAM — MAIN SECTION (4/4) — • Refer to page 50 for IC Block Diagrams.



Note:
- Voltage is dc with respect to ground under no-signal condition.
  no mark : FM
  ( ) : AM

6-18. PRINTED WIRING BOARD — CONTROL SECTION —

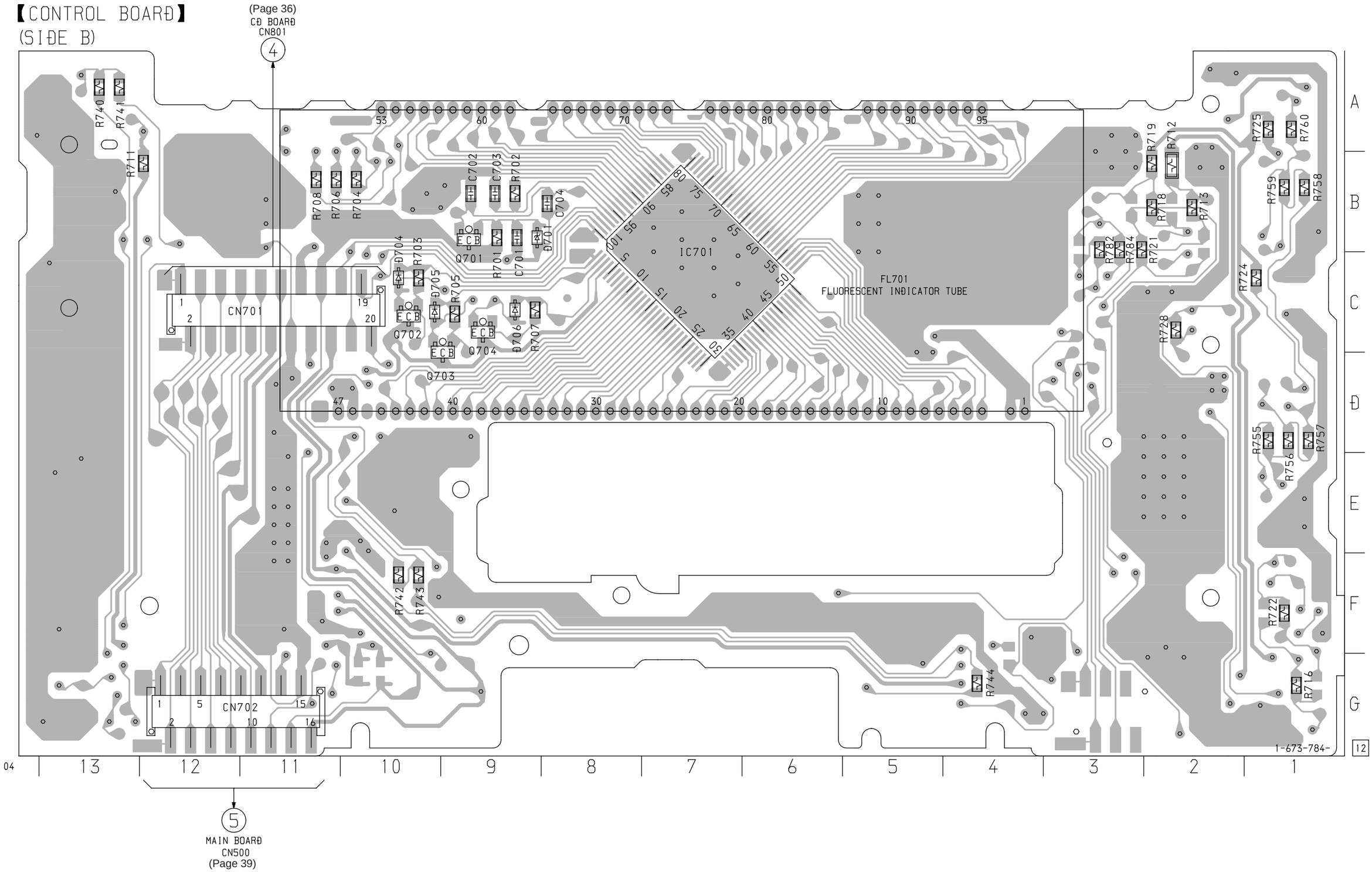


• **Semiconductor Location**

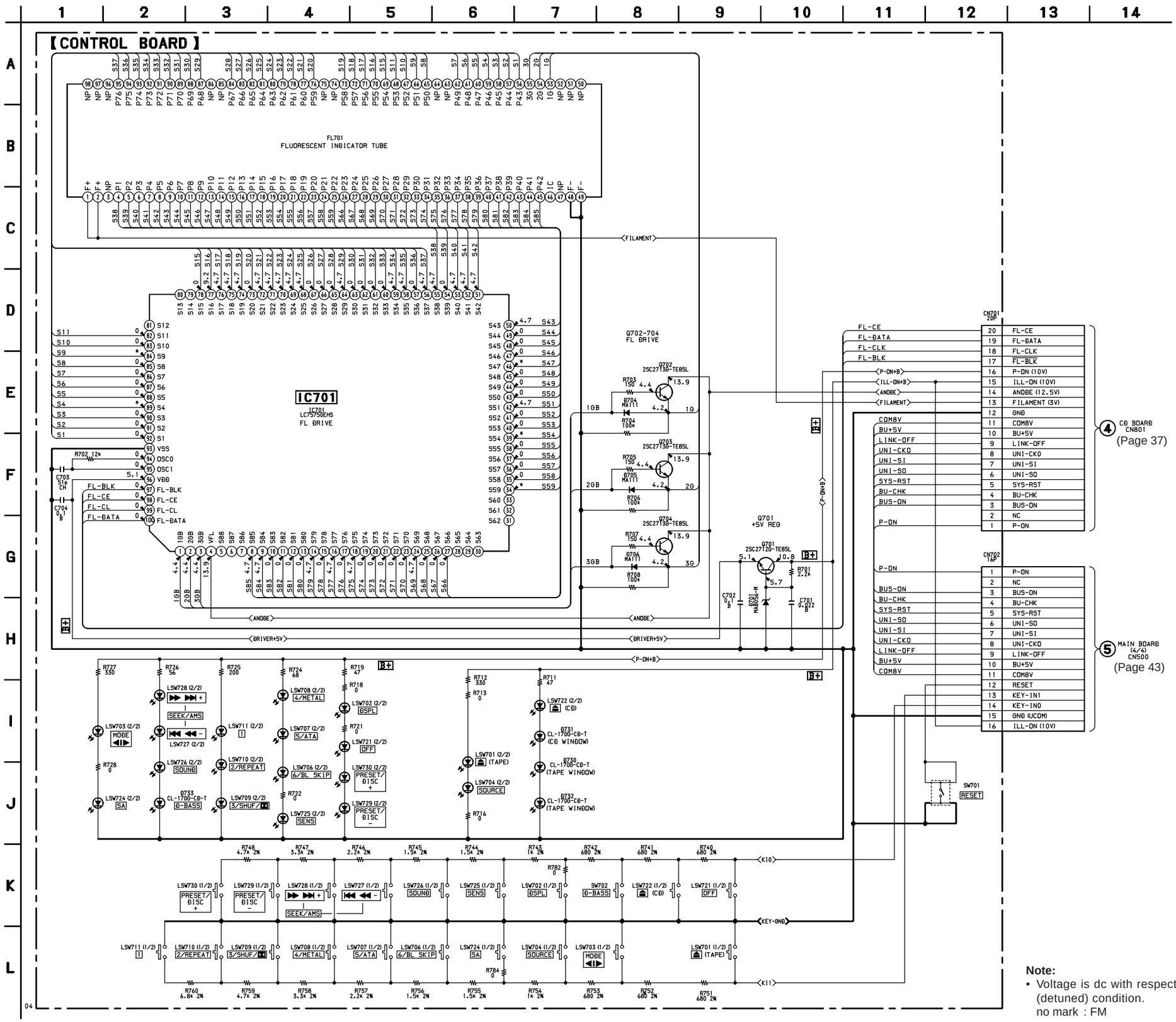
Ref. No.	Location	Ref. No.	Location
(D701)	B-8	(IC701)	C-7
(D704)	C-10		
(D705)	C-10	(Q701)	C-9
(D706)	C-9	(Q702)	C-10
D730	F-6	(Q703)	D-10
D731	A-7	(Q704)	C-9
D732	F-6		
D733	B-12		

( ) : SIDE B

【CONTROL BOARÐ】
(SIÐE B)



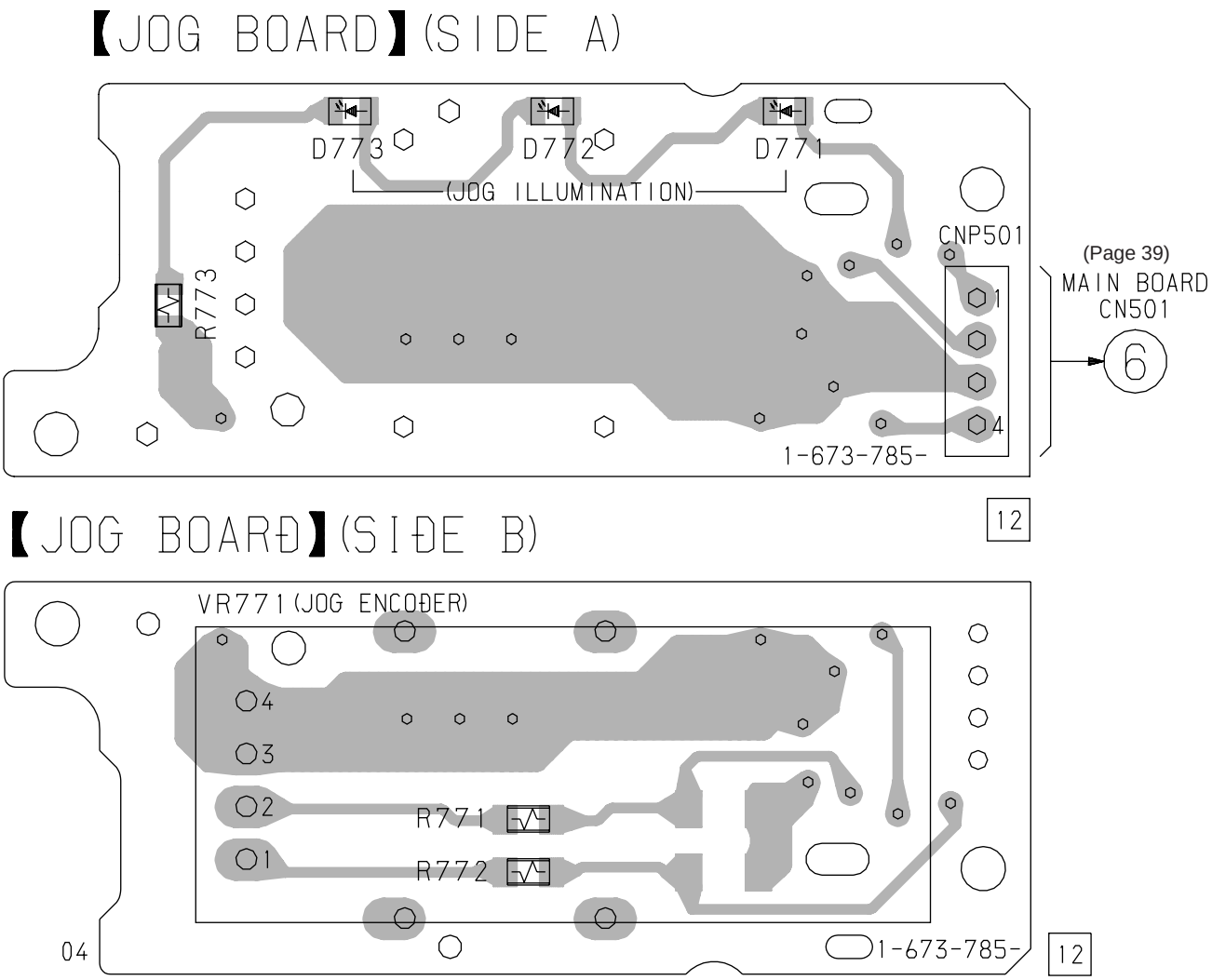
6-19. SCHEMATIC DIAGRAM — CONTROL SECTION —



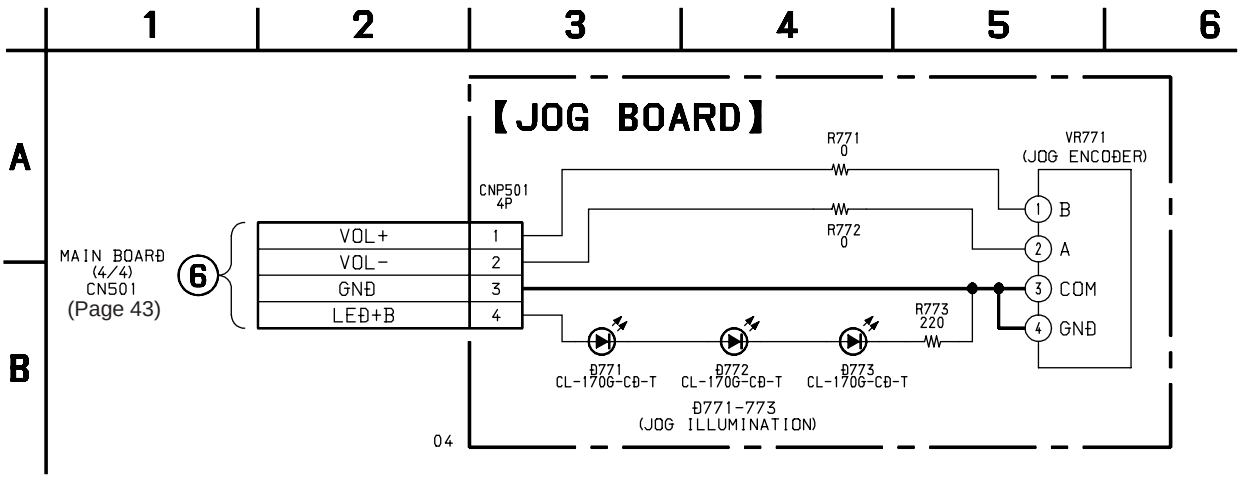
Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

6-20. PRINTED WIRING BOARD — JOG SECTION —

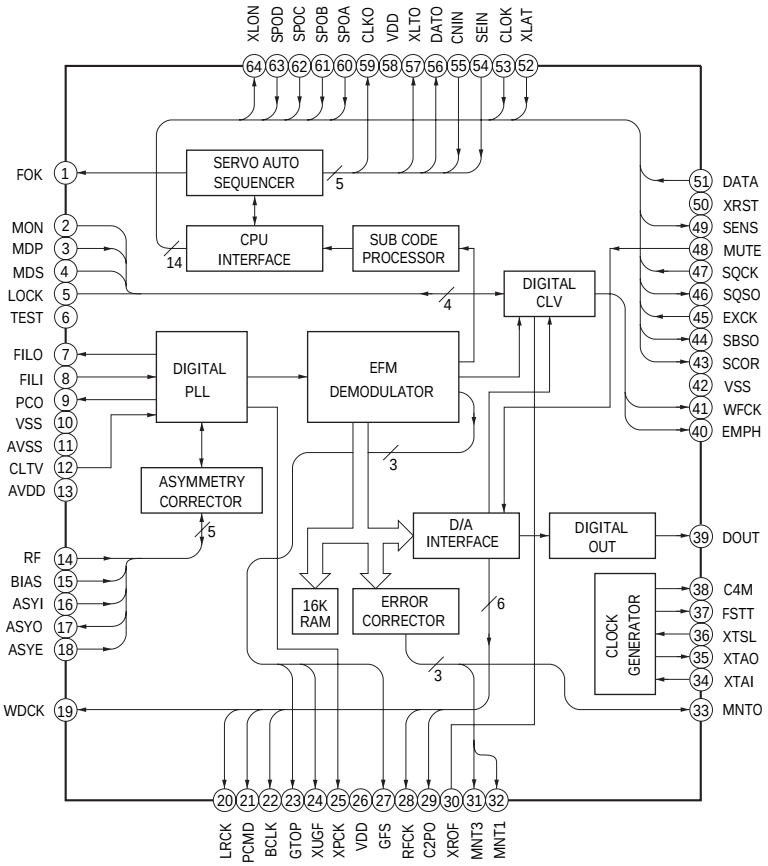


6-21. SCHEMATIC DIAGRAM — JOG SECTION —

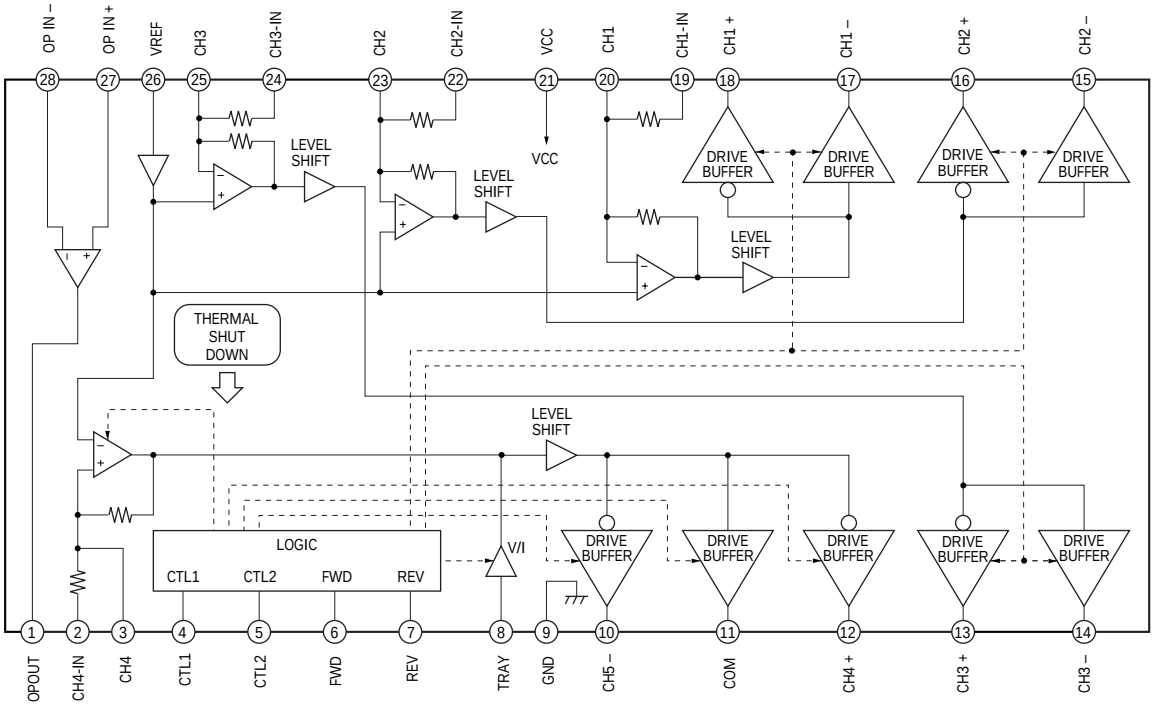


• IC Block Diagrams

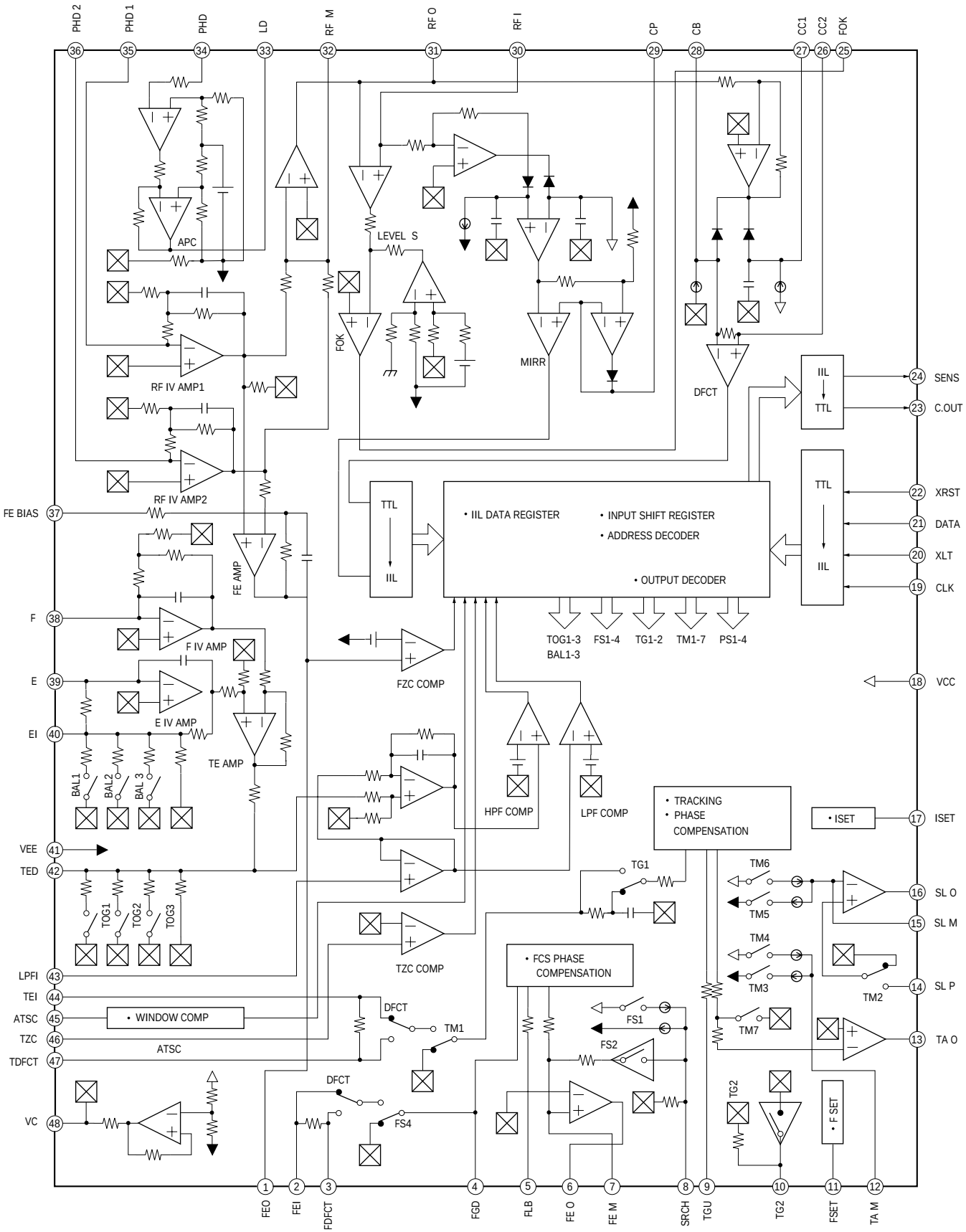
IC1 CXD2507AQ (SERVO BOARD)



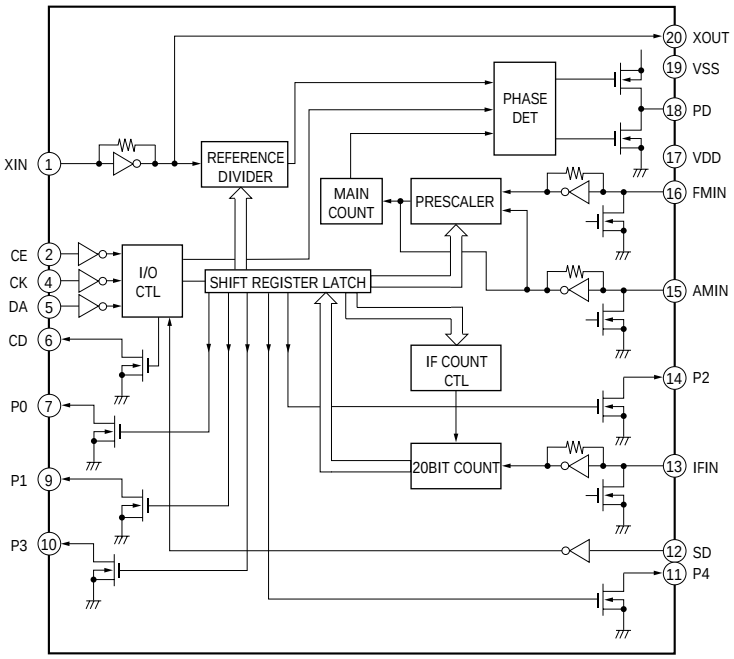
IC3 BA6796FP-T1



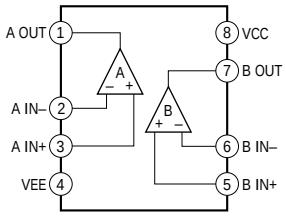
IC2 CXA1782BQ



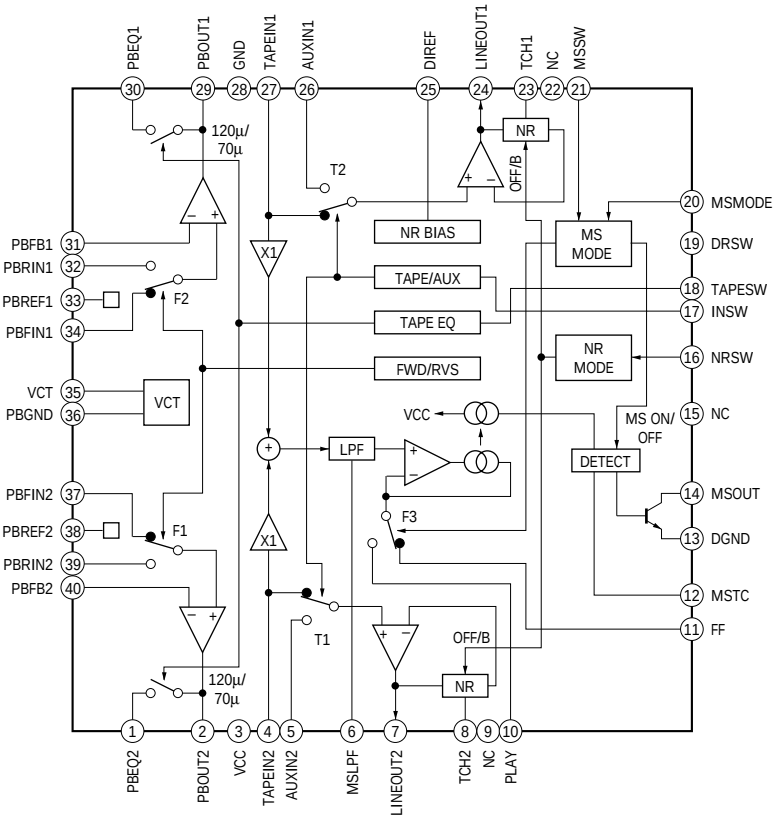
IC1 BU2624FV (MAIN BOARD)



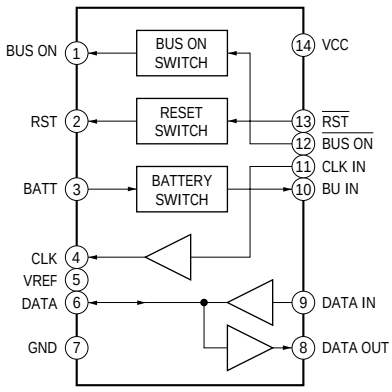
IC331, 341 NJM4558M



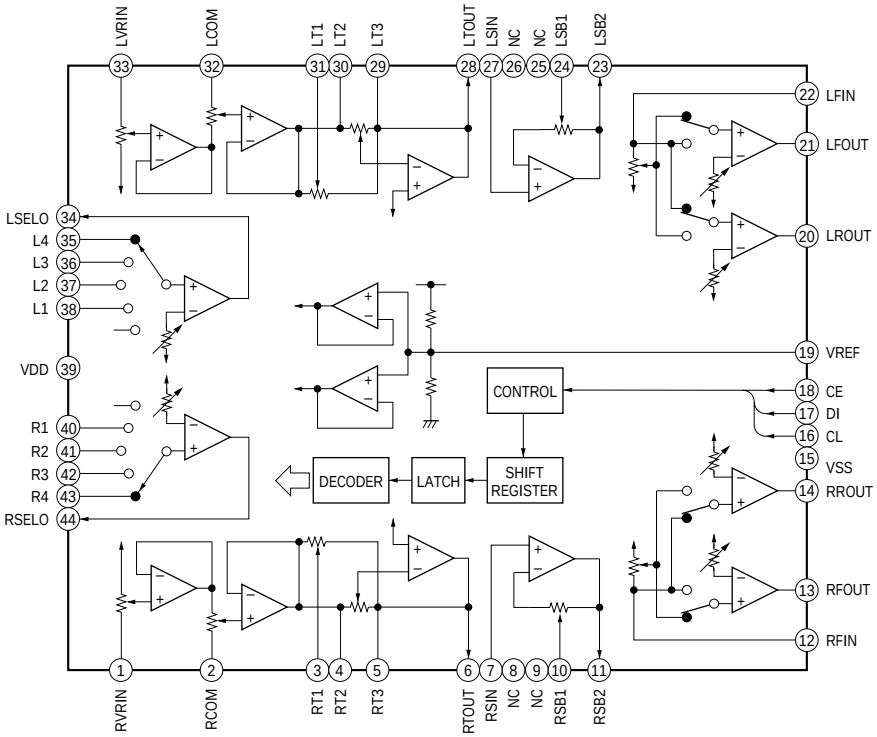
IC300 CXA2510AQ



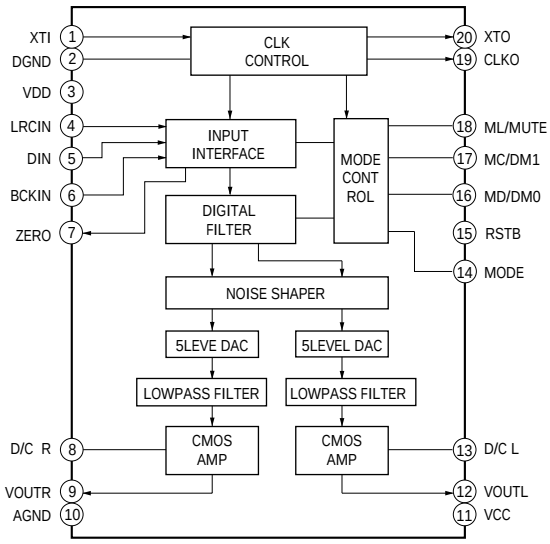
IC620 BA8270F



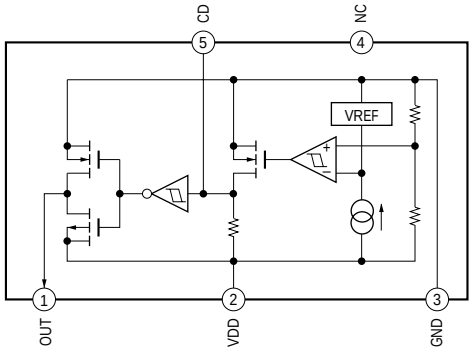
IC350 LC75374E



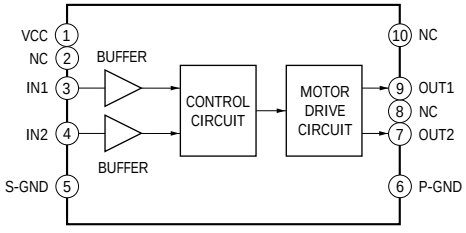
IC401 PCM1717E-ST2



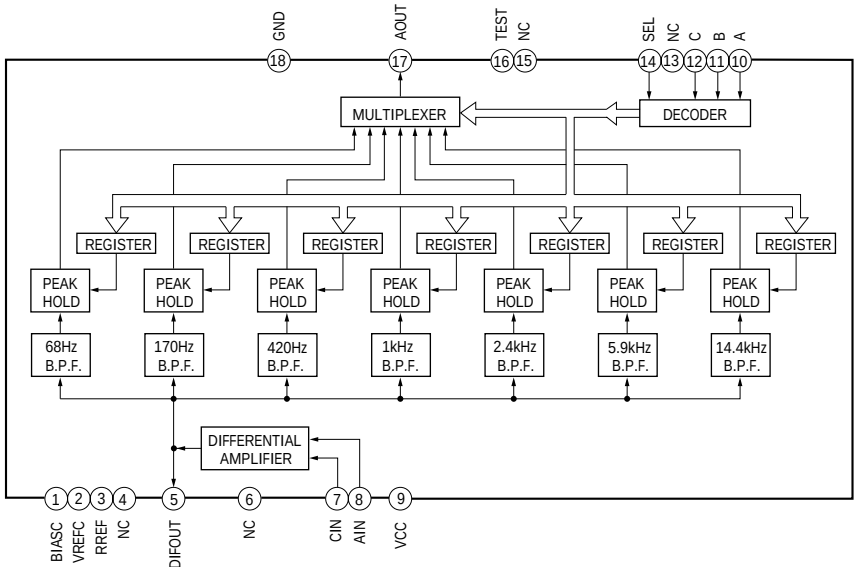
IC502 RN5VD23AA-TL



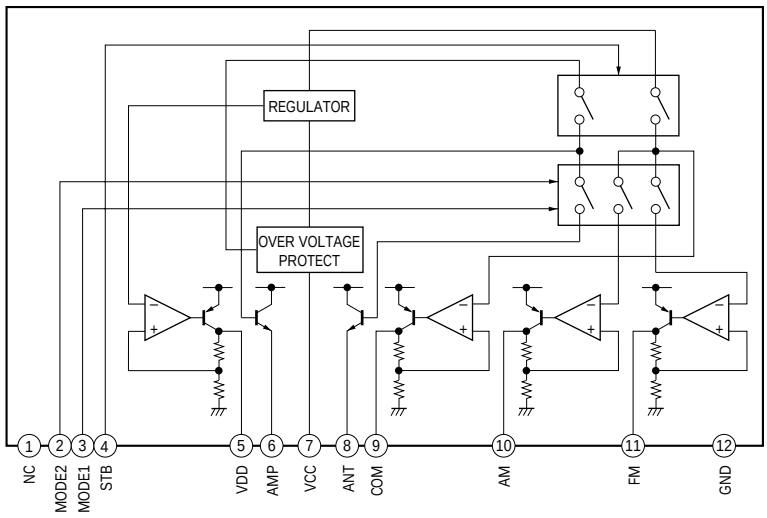
IC600 LB1930M



IC802 BA3834F



IC680 BA3918-V2

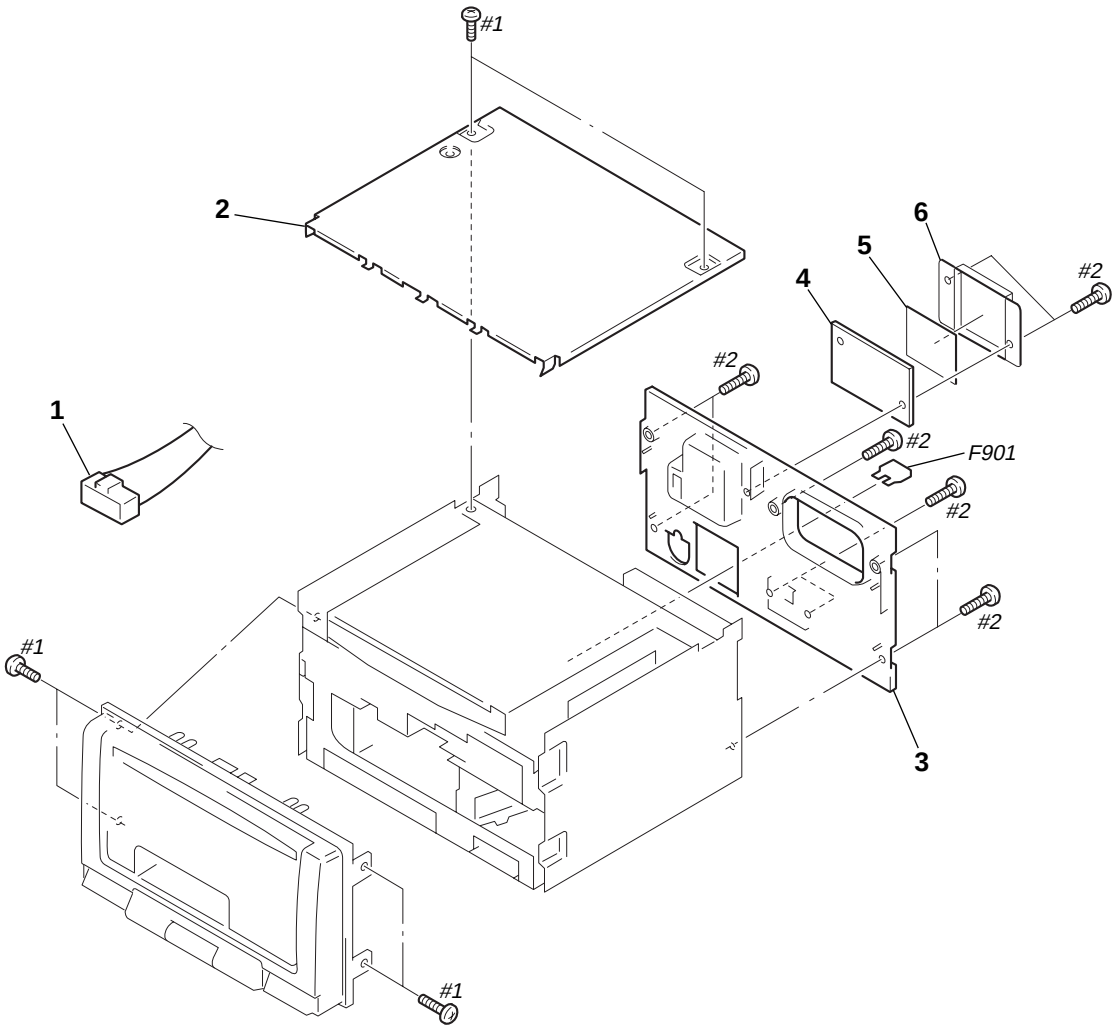


SECTION 7
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

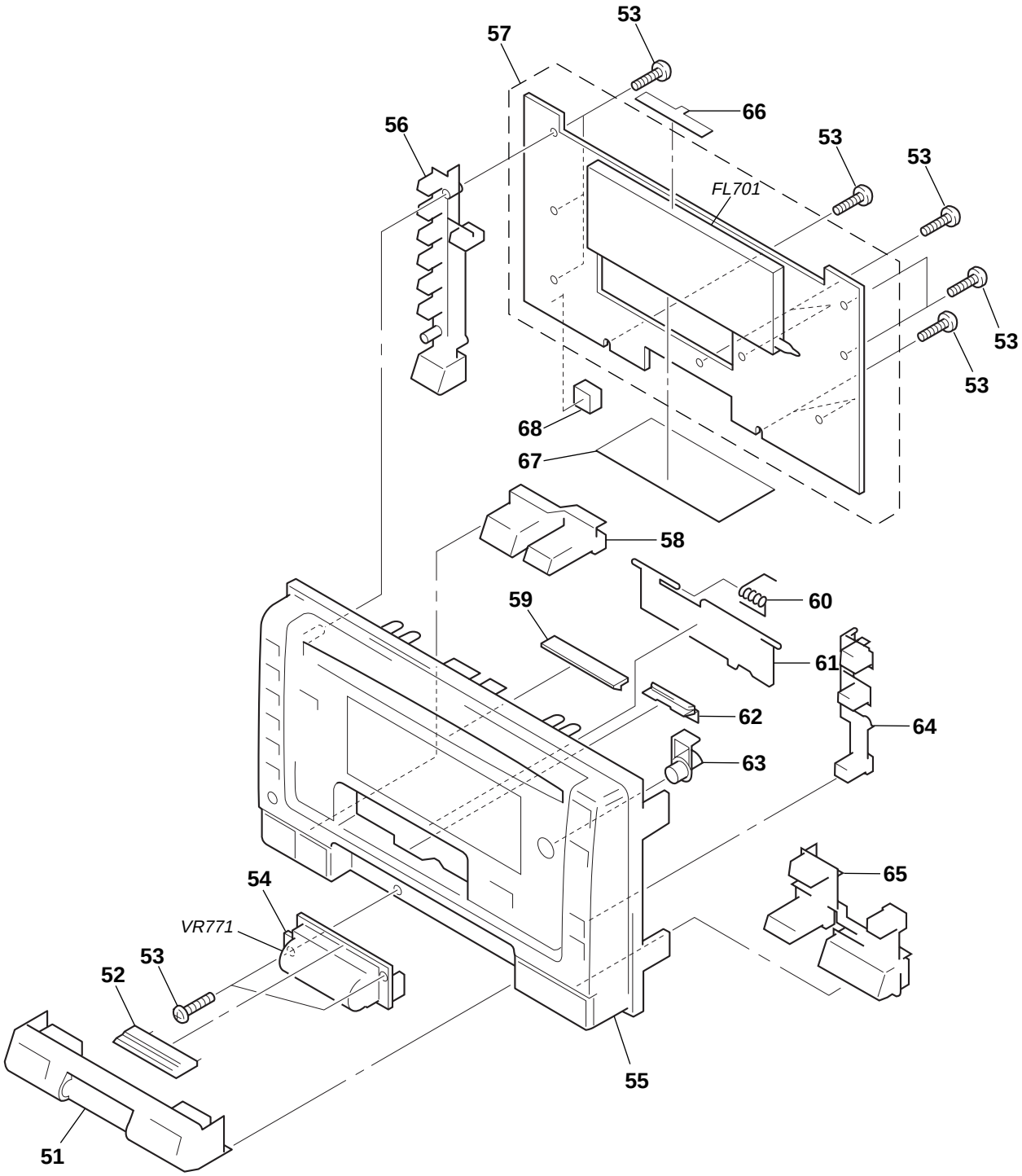
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

7-1. COVER SECTION



Ref. No.	Part No.	Description	Remark
1	1-791-457-11	CORD (WITH CONNECTOR) (POWER)	
* 2	3-024-092-21	COVER	
* 3	3-024-091-21	HEAT SINK	
* 4	1-676-336-11	TR BOARD	
* 5	3-025-964-01	SHEET (TRANSFORMER), INSULATING	
* 6	3-025-584-01	COVER (DD CONVERTER)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	

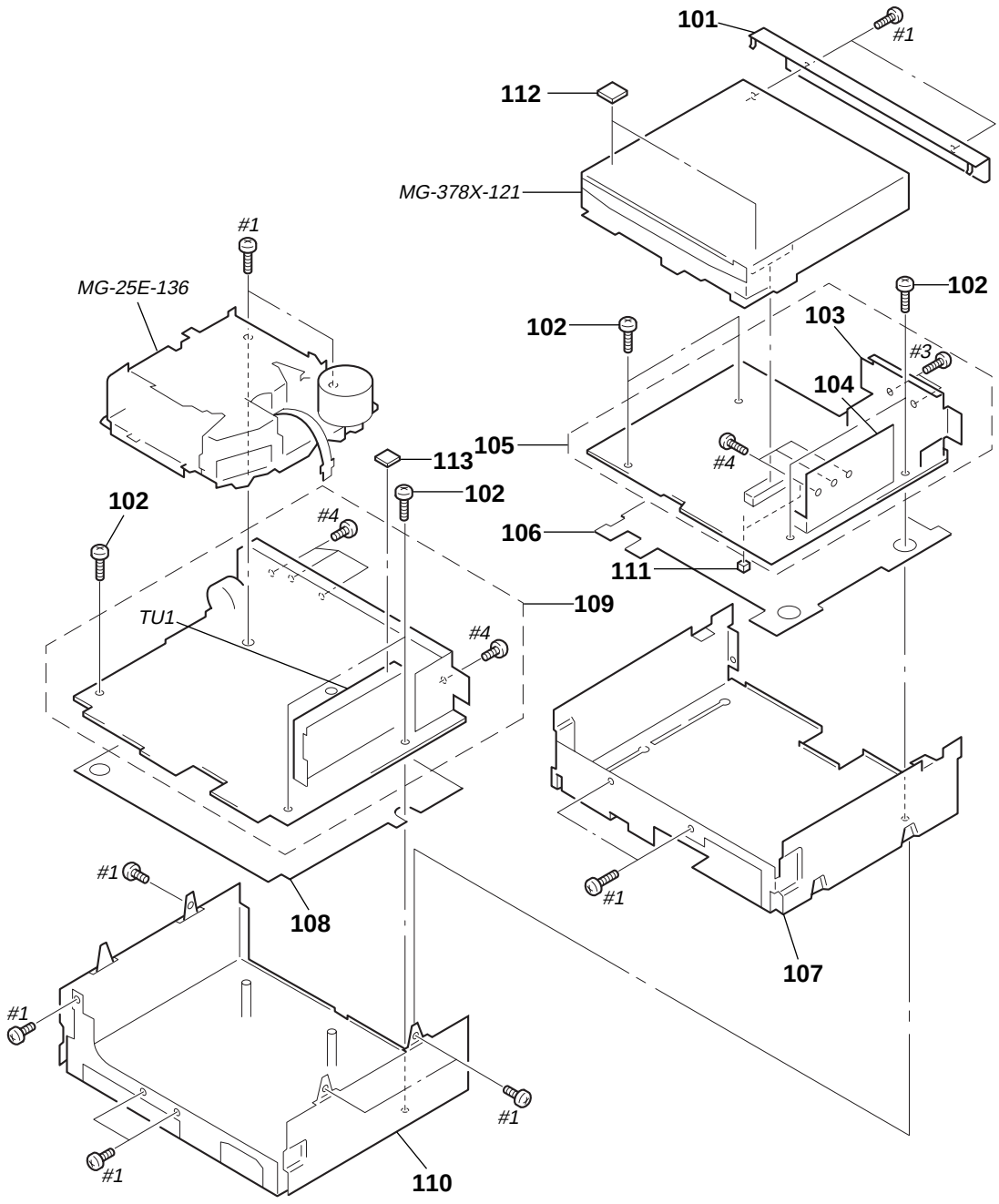
7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-036-193-01	PANEL (VOL)	
52	3-036-185-01	PLATE (VOL), LIGHT GUIDE	
53	3-029-975-01	SCREW (2X8), +P TITE	
* 54	1-673-785-12	JOG BOARD	
55	X-3378-137-1	PANEL SUB ASSY	
56	3-036-178-11	BUTTON (1-6)	
* 57	A-3294-688-A	CONTROL BOARD, COMPLETE	
58	3-036-179-11	BUTTON (M.T)	
59	3-036-184-01	PLATE (CD), LIGHT GUIDE	
60	3-036-198-01	SPRING (C DOOR), TORSION	

Ref. No.	Part No.	Description	Remark
61	3-036-182-01	DOOR, CASSETTE	
62	3-036-183-01	PLATE (CASSETTE), LIGHT GUIDE	
63	3-036-186-01	BUTTON (D-BASS)	
64	3-036-181-01	BUTTON (OFF)	
65	3-036-180-01	BUTTON (S.A.S)	
66	3-036-194-01	SHEET (FL)	
67	3-037-479-01	SHEET (LIGHT INTERCEPTION)	
68	4-926-578-01	PLATE (P), RUBBER	
FL701	1-517-885-11	INDICATOR TUBE, FLUORESCENT	
VR771	1-418-378-12	ENCODER, JOG	

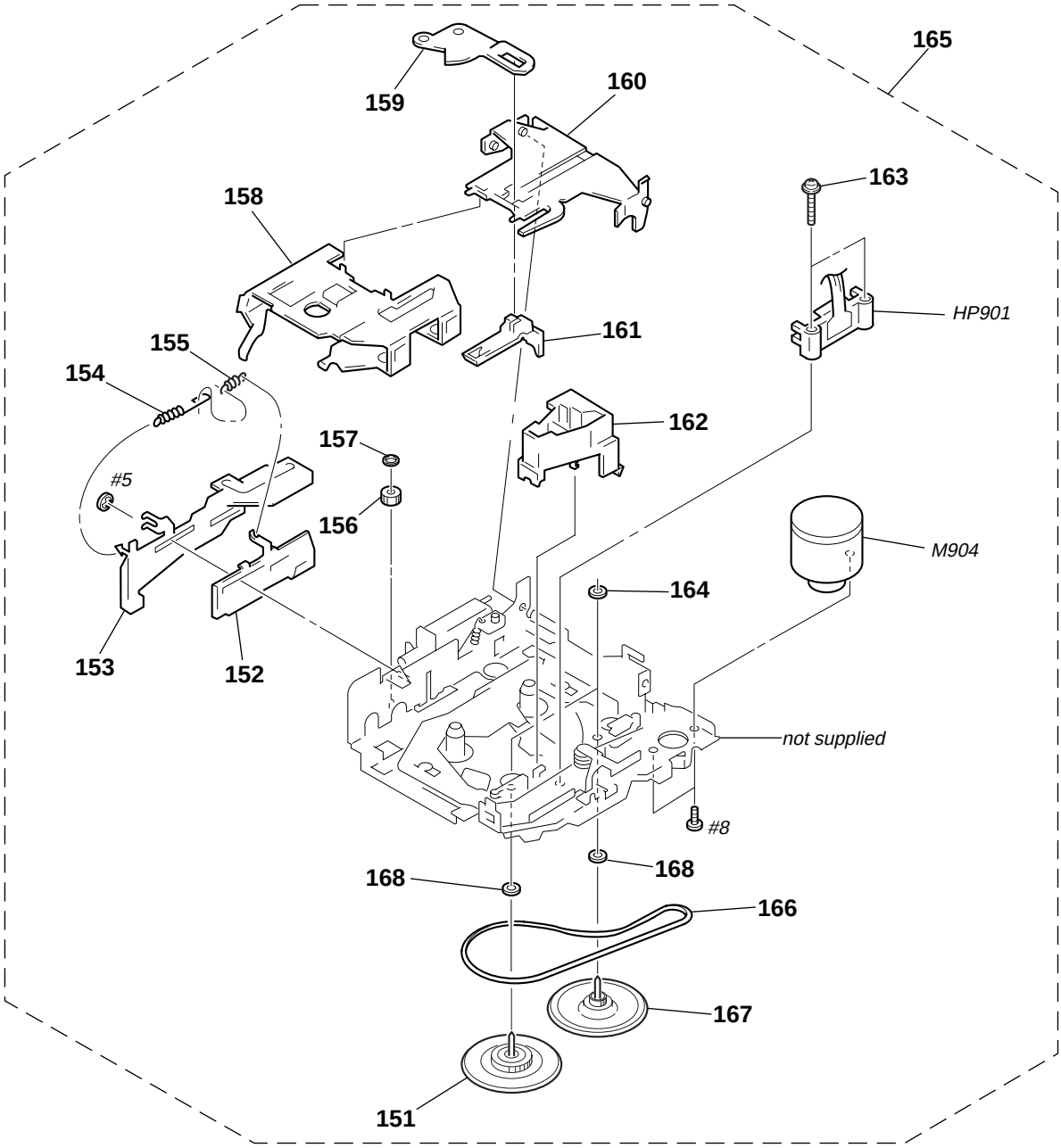
7-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 101	3-024-109-12	BRACKET (CD)	
102	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 103	3-024-107-11	BRACKET (U)	
* 104	3-024-222-01	HEAT SINK (3 TERMINAL)	
* 105	A-3294-686-A	CD BOARD, COMPLETE	
* 106	3-024-113-01	SHEET (U), INSULATING	
* 107	3-024-097-12	CHASSIS (U)	
* 108	3-027-592-01	SHEET (L), INSULATING	

Ref. No.	Part No.	Description	Remark
* 109	A-3294-683-A	MAIN BOARD, COMPLETE (US)	
* 109	A-3294-684-A	MAIN BOARD, COMPLETE (E)	
* 110	X-3375-439-1	CHASSIS (L) ASSY (US)	
* 110	X-3377-429-1	CHASSIS (L) ASSY (E)	
* 111	3-342-925-01	CUSHION, RUBBER	
* 112	3-924-145-01	CUSHION (TU), RUBBER	
113	3-563-691-01	CUSHION	
TU1	A-3282-029-A	TUNER UNIT (TUX-006/2(E))	

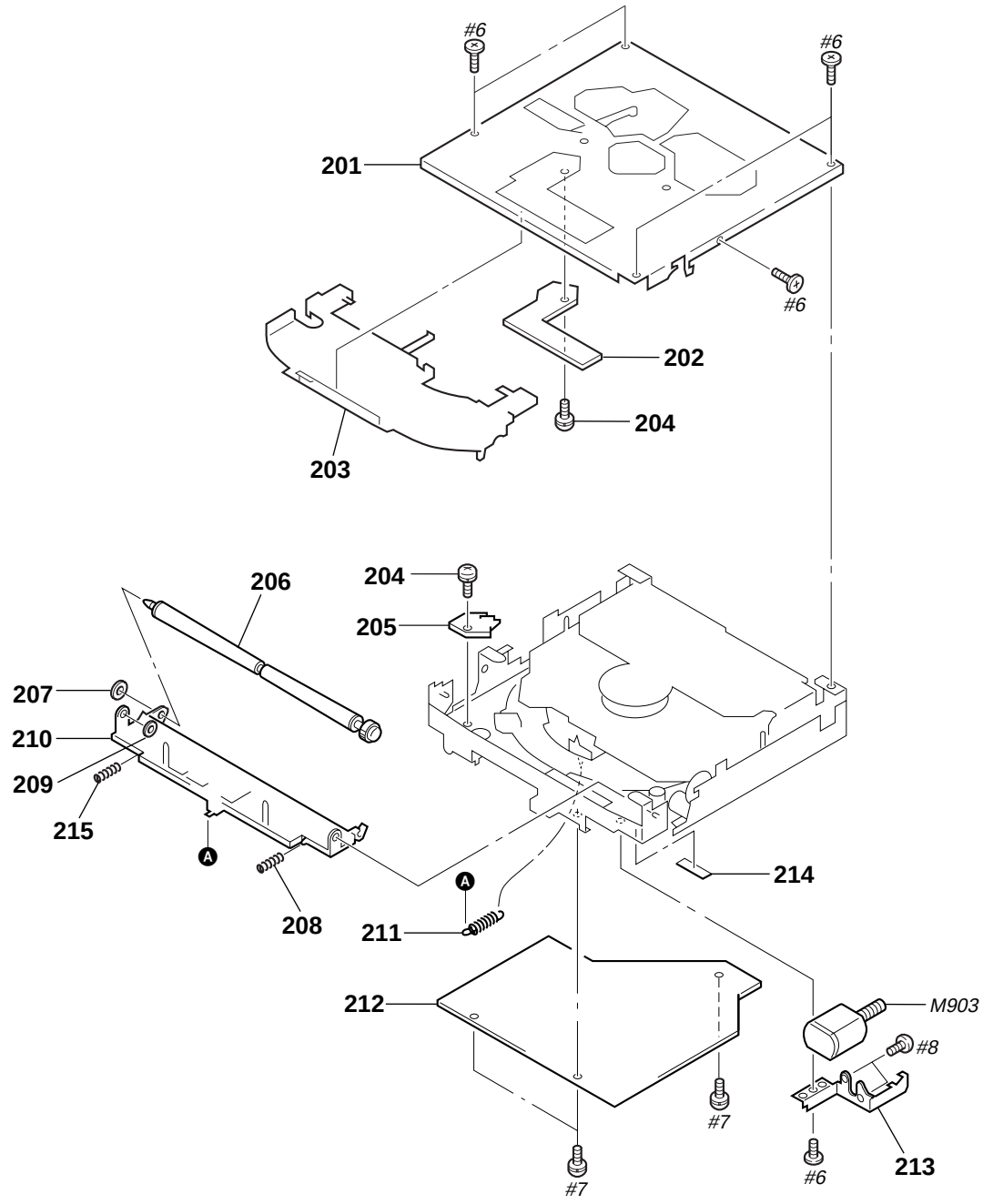
7-4. TAPE MECHANISM SECTION
(MG-25E-136)



Ref. No.	Part No.	Description	Remark
151	A-3291-667-A	CLUTCH (FR) ASSY	
* 152	3-019-130-01	LEVER (LDG-A)	
153	3-019-131-01	LEVER (LDG-B)	
154	3-020-539-01	SPRING (LD-1), TENSION	
155	3-020-540-01	SPRING (LD-2), TENSION	
156	3-020-542-01	GEAR (LOADING FT)	
157	3-341-753-11	WASHER, POLYETHYLENE	
158	3-020-533-01	HOUSING	
* 159	3-020-532-01	ARM (SUCTION)	
160	3-020-534-01	HANGER	

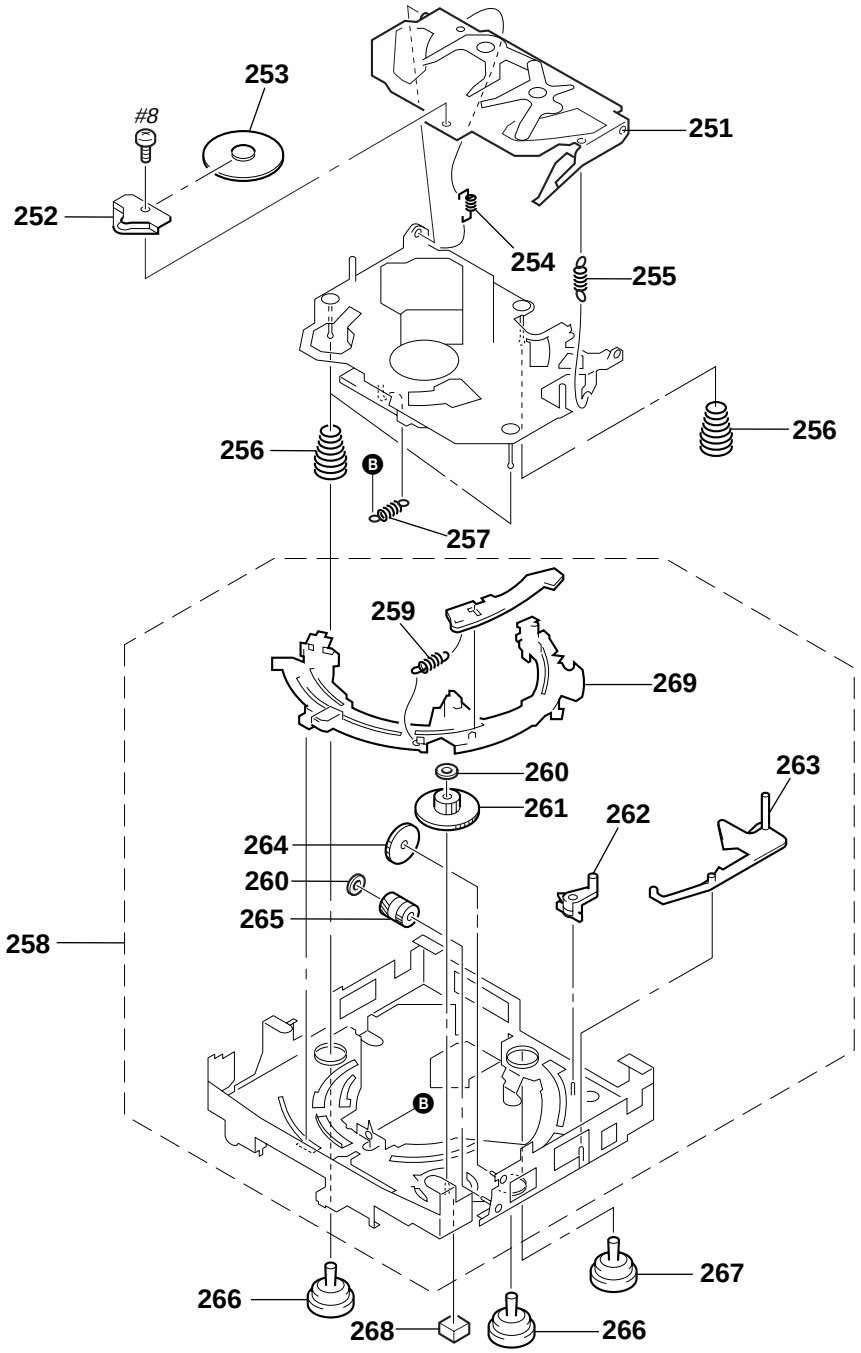
Ref. No.	Part No.	Description	Remark
161	3-933-346-01	CATCHER	
162	3-933-344-01	GUIDE (C)	
163	3-014-798-01	SCREW (HEAD), SPECIAL	
164	3-364-151-01	WASHER	
165	A-3220-607-A	DECK ASSY, MECHANISM	
166	3-017-302-01	BELT (25)	
167	3-936-853-01	FLYWHEEL (F)	
168	3-701-437-21	WASHER	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M904	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

7-5. CD MECHANISM SECTION (1)
(MG-378X-121)



Ref. No.	Part No.	Description	Remark
201	X-3376-767-1	CHASSIS (TM) ASSY	
* 202	1-660-797-21	SENSOR BOARD	
203	3-032-474-01	GUIDE (DISC M)	
204	3-338-737-01	SCREW (2X3), +PS	
* 205	1-659-837-11	LOAD BOARD	
206	A-3301-204-A	ROLLER ASSY	
207	3-931-913-11	RING (ROLLER), RETAINING	
208	3-040-324-01	SPRING (RA-R), COMPRESSION	
209	3-321-813-01	WASHER, COTTER POLYETHYLENE	
210	3-025-419-01	ARM (ROLLER)	
211	3-937-561-01	SPRING (RA-E), TENSION	
* 212	A-3313-563-A	SERVO BOARD, COMPLETE	
* 213	3-007-530-01	BRACKET (MOTOR)	
* 214	3-939-139-01	SPACER	
215	3-040-323-01	SPRING (RA-L), COMPRESSION	
M903	A-3291-576-A	MOTOR SUB ASSY, LOADING (LOADING)	

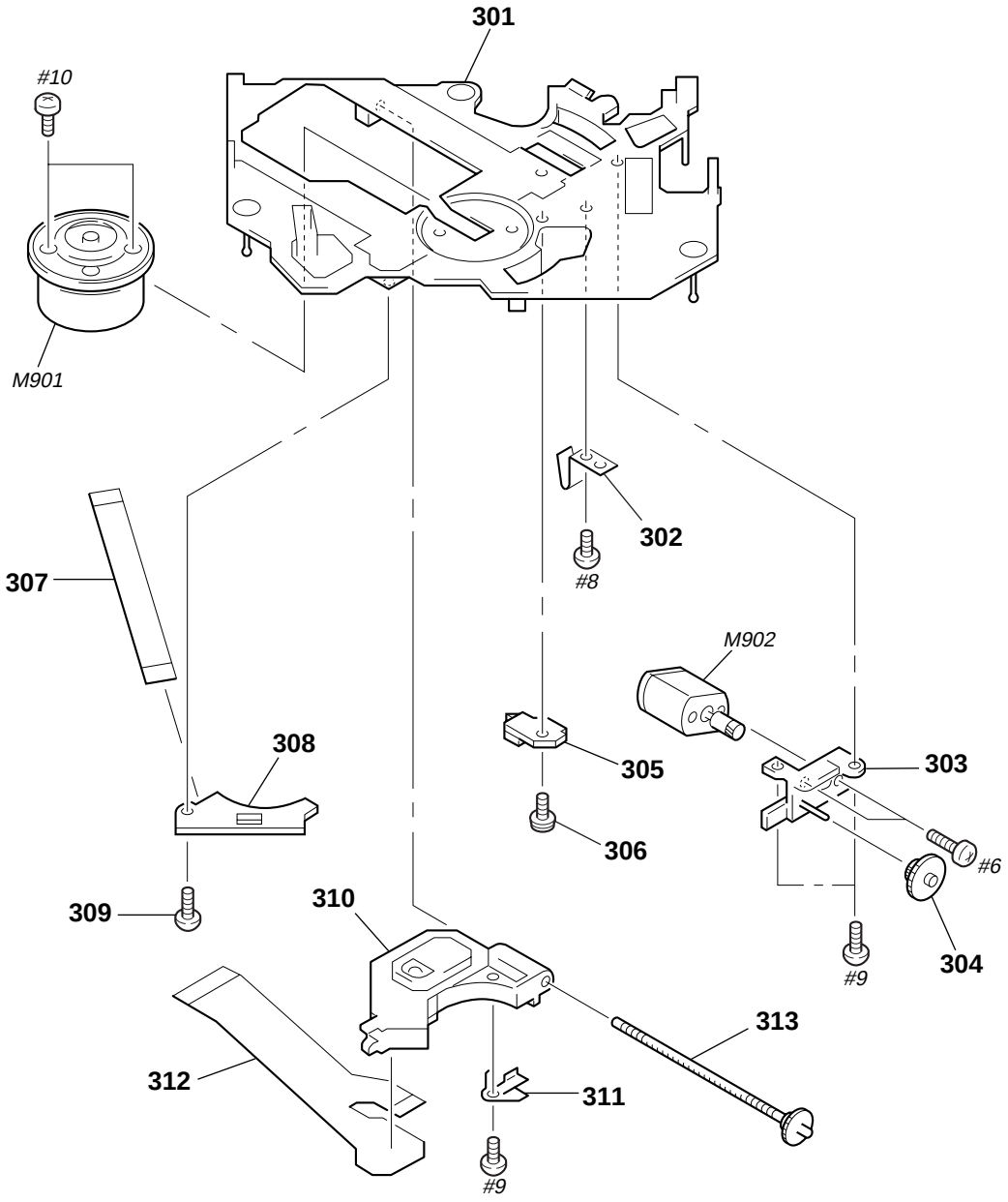
7-6. CD MECHANISM SECTION (2)
(MG-378X-121)



Ref. No.	Part No.	Description	Remark
251	X-3372-203-1	ARM ASSY, CHUCKING	
252	3-931-894-01	BRACKET (CP)	
* 253	3-384-918-01	RETAINER (DISC)	
254	3-021-326-01	SPRING (8)	
255	3-931-895-11	SPRING (CH), TENSION	
256	3-931-898-11	SPRING (FL), COMPRESSION	
257	3-023-470-01	SPRING (KF8), TENSION	
258	A-3277-813-E	CHASSIS (M) COMPLETE ASSY	
259	3-931-883-01	SPRING (TR), TENSION	
260	3-018-272-01	WASHER	

Ref. No.	Part No.	Description	Remark
261	3-014-727-01	WHEEL (LW), WORM	
262	3-931-881-01	LEVER (LOCK)	
263	3-935-828-01	LEVER (D)	
264	3-931-882-02	GEAR (MDL)	
265	3-007-537-11	WHEEL (U), WORM	
266	3-931-897-41	DAMPER (T)	
267	3-931-897-31	DAMPER (T)	
268	4-926-578-01	PLATE (P), RUBBER	
269	3-935-844-06	RING, LOADING	

7-7. CD MECHANISM SECTION (3)
(MG-378X-121)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
301	X-3372-205-2	CHASSIS (OP) (O/S) ASSY	
302	3-931-829-01	SPRING (SL), PLATE	
303	X-3371-504-1	BASE (DRIVING) ASSY	
304	3-931-832-01	GEAR (SL MIDWAY)	
* 305	1-659-835-12	LIMIT BOARD	
306	3-338-737-01	SCREW (2X3), +PS	
307	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 308	1-659-834-11	SUB BOARD	
309	3-909-607-01	SCREW	
⚠ 310	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
311	3-025-743-01	SPRING (FEED), LEAF	
312	1-659-881-11	PICK-UP FLEXIBLE BOARD	
313	A-3291-669-A	SHAFT (FEED) ASSY	
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	

CD

SECTION 8
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3294-686-A	CD BOARD, COMPLETE			
		**********			
*	3-024-107-11	BRACKET (U)			
*	3-024-222-01	HEAT SINK (3 TERMINAL)			
	7-685-792-09	SCREW +PTT 2.6X6 (S)			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
		< CAPACITOR >			
C401	1-124-589-11	ELECT	47uF	20%	16V
C402	1-124-584-00	ELECT	100uF	20%	10V
C403	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C404	1-124-584-00	ELECT	100uF	20%	10V
C405	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C406	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C407	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C408	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C409	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C410	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C411	1-163-209-00	CERAMIC CHIP	0.0015uF	10%	50V
C412	1-124-234-00	ELECT	22uF	20%	16V
C413	1-126-160-11	ELECT	1uF	20%	50V
C421	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C422	1-124-234-00	ELECT	22uF	20%	16V
C423	1-126-160-11	ELECT	1uF	20%	50V
C433	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C434	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C443	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C444	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C451	1-124-257-00	ELECT	2.2uF	20%	50V
C461	1-124-257-00	ELECT	2.2uF	20%	50V
C481	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C482	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C483	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C484	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C485	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C801	1-124-259-11	ELECT	4.7uF	20%	35V
C802	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C803	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C805	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C807	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C809	1-124-259-11	ELECT	4.7uF	20%	35V
C810	1-128-057-11	ELECT	330uF	20%	6.3V
C813	1-163-287-11	CERAMIC CHIP	10PF	5%	50V
C814	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C822	1-124-233-11	ELECT	10uF	20%	16V
C823	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C824	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C825	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C826	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C827	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C851	1-126-941-11	ELECT	470uF	20%	25V
C852	1-124-234-00	ELECT	22uF	20%	16V
C853	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C854	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C855	1-124-589-11	ELECT	47uF	20%	16V
C856	1-124-589-11	ELECT	47uF	20%	16V
C857	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C858	1-124-233-11	ELECT	10uF	20%	16V
C859	1-124-589-11	ELECT	47uF	20%	16V
C860	1-124-589-11	ELECT	47uF	20%	16V
C861	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C862	1-124-233-11	ELECT	10uF	20%	16V
C863	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C864	1-124-234-00	ELECT	22uF	20%	16V
C865	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C866	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C867	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
		< JACK >			
CN401	1-774-700-11	JACK, PIN 6P (FRONT AUDIO OUT, REAR AUDIO OUT, BUS AUDIO IN)			
		< CONNECTOR >			
* CN402	1-564-728-11	PIN, CONNECTOR (SMALL TYPE) 12P			
CN801	1-784-988-11	CONNECTOR 20P			
CN802	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
* CN803	1-506-999-11	PIN, CONNECTOR (PC BOARD) 3P			
		< DIODE >			
D401	8-719-911-19	DIODE 1SS119-25TD			
D801	8-719-911-19	DIODE 1SS119-25TD			
D802	8-719-911-19	DIODE 1SS119-25TD			
D851	8-719-422-97	DIODE MA8091-M-TX			
D852	8-719-977-03	DIODE MA8056-M-TX			
D853	8-719-035-39	DIODE MA4027-H(TA)			
D854	8-719-911-19	DIODE 1SS119-25TD			
D855	8-719-200-82	DIODE 11ES2-TA1B			
D856	8-719-911-19	DIODE 1SS119-25TD			
D857	8-719-911-19	DIODE 1SS119-25TD			

Ref. No.	Part No.	Description	Remark
D858	8-719-110-17	DIODE MA4100-L(TA)	
D859	8-719-911-19	DIODE 1SS119-25TD	
D860	8-719-053-18	DIODE 1SR154-400TE-25	
D862	8-719-053-18	DIODE 1SR154-400TE-25	
D865	8-719-053-18	DIODE 1SR154-400TE-25	
		< IC >	
IC401	8-759-464-81	IC PCM1717E-ST2	
IC801	8-759-637-89	IC uPD78054GC-A32-8BT	
IC802	8-759-392-22	IC BA3834F	
		< JUMPER RESISTOR >	
JC401	1-216-296-00	SHORT 0	
JC431	1-216-295-00	SHORT 0	
JC441	1-216-295-00	SHORT 0	
JC481	1-216-295-00	SHORT 0	
JC801	1-216-295-00	SHORT 0	
JC804	1-216-296-11	SHORT 0	
JC806	1-216-296-11	SHORT 0	
JC807	1-216-296-11	SHORT 0	
		< COIL >	
L401	1-410-946-31	INDUCTOR CHIP 22uH	
L402	1-410-946-31	INDUCTOR CHIP 22uH	
L801	1-410-946-31	INDUCTOR CHIP 22uH	
		< EARTH TERMINAL >	
* LUG1	1-537-738-21	TERMINAL, EARTH	
* LUG3	1-537-738-21	TERMINAL, EARTH	
* LUG4	1-537-738-21	TERMINAL, EARTH	
		< TRANSISTOR >	
Q801	8-729-230-49	TRANSISTOR 2SC2712L-TE85L	
Q802	8-729-230-49	TRANSISTOR 2SC2712L-TE85L	
Q803	8-729-421-22	TRANSISTOR UN2211-TX	
Q804	8-729-421-22	TRANSISTOR UN2211-TX	
Q805	8-729-424-08	TRANSISTOR UN2111-TX	
Q806	8-729-421-22	TRANSISTOR UN2211-TX	
Q807	8-729-421-22	TRANSISTOR UN2211-TX	
Q811	8-729-216-22	TRANSISTOR 2SA1162-YG-TE85L	
Q812	8-729-230-49	TRANSISTOR 2SC2712L-TE85L	
Q851	8-729-019-00	TRANSISTOR 2SD2394-G	
Q852	8-729-424-08	TRANSISTOR UN2111-TX	
Q853	8-729-019-00	TRANSISTOR 2SD2394-G	
Q854	8-729-424-08	TRANSISTOR UN2111-TX	
Q856	8-729-019-03	TRANSISTOR 2SB1202FA-T-TL	
Q857	8-729-019-00	TRANSISTOR 2SD2394-G	
Q858	8-729-424-08	TRANSISTOR UN2111-TX	
Q859	8-729-106-60	TRANSISTOR 2SB1122-T-TD	
Q860	8-729-421-22	TRANSISTOR UN2211-TX	
		< RESISTOR >	
R401	1-216-037-00	METAL CHIP 330 5%	1/10W

Ref. No.	Part No.	Description			Remark
R402	1-216-037-00	METAL CHIP	330	5%	1/10W
R411	1-216-049-11	RES,CHIP	1K	5%	1/10W
R412	1-216-296-00	SHORT	0		
R421	1-216-049-11	RES,CHIP	1K	5%	1/10W
R422	1-216-296-00	SHORT	0		
R451	1-216-073-00	METAL CHIP	10K	5%	1/10W
R452	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R461	1-216-073-00	METAL CHIP	10K	5%	1/10W
R462	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R801	1-216-049-11	RES,CHIP	1K	5%	1/10W
R802	1-216-049-11	RES,CHIP	1K	5%	1/10W
R803	1-216-049-11	RES,CHIP	1K	5%	1/10W
R804	1-216-049-11	RES,CHIP	1K	5%	1/10W
R805	1-249-437-11	CARBON	47K	5%	1/4W
R806	1-216-097-00	RES,CHIP	100K	5%	1/10W
R807	1-216-073-00	METAL CHIP	10K	5%	1/10W
R808	1-216-073-00	METAL CHIP	10K	5%	1/10W
R809	1-216-049-11	RES,CHIP	1K	5%	1/10W
R810	1-216-049-11	RES,CHIP	1K	5%	1/10W
R811	1-216-049-11	RES,CHIP	1K	5%	1/10W
R812	1-216-049-11	RES,CHIP	1K	5%	1/10W
R813	1-216-049-11	RES,CHIP	1K	5%	1/10W
R814	1-216-049-11	RES,CHIP	1K	5%	1/10W
R815	1-216-049-11	RES,CHIP	1K	5%	1/10W
R816	1-216-049-11	RES,CHIP	1K	5%	1/10W
R817	1-216-049-11	RES,CHIP	1K	5%	1/10W
R818	1-216-097-00	RES,CHIP	100K	5%	1/10W
R819	1-216-097-00	RES,CHIP	100K	5%	1/10W
R820	1-216-097-00	RES,CHIP	100K	5%	1/10W
R821	1-249-441-11	CARBON	100K	5%	1/4W
R822	1-216-105-00	RES,CHIP	220K	5%	1/10W
R823	1-216-089-00	RES,CHIP	47K	5%	1/10W
R824	1-216-097-00	RES,CHIP	100K	5%	1/10W
R825	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R826	1-216-097-00	RES,CHIP	100K	5%	1/10W
R827	1-216-049-11	RES,CHIP	1K	5%	1/10W
R828	1-249-411-11	CARBON	330	5%	1/4W
R829	1-216-049-11	RES,CHIP	1K	5%	1/10W
R830	1-216-049-11	RES,CHIP	1K	5%	1/10W
R831	1-249-417-11	CARBON	1K	5%	1/4W
R832	1-249-417-11	CARBON	1K	5%	1/4W
R833	1-249-417-11	CARBON	1K	5%	1/4W
R834	1-249-417-11	CARBON	1K	5%	1/4W
R835	1-249-417-11	CARBON	1K	5%	1/4W
R836	1-249-417-11	CARBON	1K	5%	1/4W
R838	1-216-295-00	SHORT	0		
R839	1-216-049-11	RES,CHIP	1K	5%	1/10W
R840	1-216-049-11	RES,CHIP	1K	5%	1/10W
R841	1-216-049-11	RES,CHIP	1K	5%	1/10W
R842	1-216-699-00	METAL CHIP	100K	0.50%	1/10W
R843	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R851	1-249-385-11	CARBON	2.2	5%	1/6W
R852	1-249-417-11	CARBON	1K	5%	1/4W

CD CONTROL

Ref. No.	Part No.	Description			Remark
R853	1-249-417-11	CARBON	1K	5%	1/4W
R854	1-249-417-11	CARBON	1K	5%	1/4W
R855	1-249-421-11	CARBON	2.2K	5%	1/4W
R856	1-249-413-11	CARBON	470	5%	1/4W
R857	1-249-417-11	CARBON	1K	5%	1/4W
R858	1-249-385-11	CARBON	2.2	5%	1/6W
R859	1-216-073-00	METAL CHIP	10K	5%	1/10W
R860	1-249-421-11	CARBON	2.2K	5%	1/4W
		< VIBRATOR >			
X401	1-579-280-31	VIBRATOR, CRYSTAL (16.9MHz)			
X801	1-579-233-11	VIBRATOR, CERAMIC (5MHz)			
**********					
*	A-3294-688-A	CONTROL BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C701	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C702	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C703	1-163-110-00	CERAMIC CHIP	51PF	5%	50V
C704	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN701	1-779-170-11	SOCKET, CONNECTOR 20P			
CN702	1-774-276-21	SOCKET, CONNECTOR 16P			
		< DIODE >			
D701	8-719-977-03	DIODE MA8056-M-TX			
D704	8-719-073-01	DIODE MA111-TX			
D705	8-719-073-01	DIODE MA111-TX			
D706	8-719-073-01	DIODE MA111-TX			
D730	8-719-991-27	LED CL-170G-CD-T (TAPE WINDOW)			
D731	8-719-991-27	LED CL-170G-CD-T (CD WINDOW)			
D732	8-719-991-27	LED CL-170G-CD-T (TAPE WINDOW)			
D733	8-719-991-27	LED CL-170G-CD-T (D-BASS)			
		< INDICATOR TUBE >			
FL701	1-517-885-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC701	8-759-528-30	IC LC75750EHS			
		< SWITCH >			
LSW701	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (TAPE ⏏)			
LSW702	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (DSPL)			
LSW703	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (MODE ◀I▶)			
LSW704	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
LSW706	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (6/BL SKIP)			
LSW707	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (5/ATA)			
LSW708	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (4/METAL)			
LSW709	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (3/SHUF/□□)			
LSW710	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (2/REPEAT)			

Ref. No.	Part No.	Description			Remark
LSW711	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (1)			
LSW721	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (OFF)			
LSW722	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (CD ⏏)			
LSW724	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (SA)			
LSW725	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (SENS)			
LSW726	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (SOUND)			
LSW727	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (SEEK/AMS ⏮ ◀◀ –)			
LSW728	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (SEEK/AMS ▶▶ ⏭ +)			
LSW729	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (PRESET/DISC –)			
LSW730	1-762-618-21	SWITCH, KEY BOARD (WITH LED) (PRESET/DISC +)			
		< TRANSISTOR >			
Q701	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q702	8-729-271-31	TRANSISTOR 2SC2713G-TE85L			
Q703	8-729-271-31	TRANSISTOR 2SC2713G-TE85L			
Q704	8-729-271-31	TRANSISTOR 2SC2713G-TE85L			
		< RESISTOR >			
R701	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R702	1-216-075-00	METAL CHIP	12K	5%	1/10W
R703	1-216-029-00	METAL CHIP	150	5%	1/10W
R704	1-216-097-00	RES,CHIP	100K	5%	1/10W
R705	1-216-029-00	METAL CHIP	150	5%	1/10W
R706	1-216-097-00	RES,CHIP	100K	5%	1/10W
R707	1-216-029-00	METAL CHIP	150	5%	1/10W
R708	1-216-097-00	RES,CHIP	100K	5%	1/10W
R711	1-216-017-00	RES,CHIP	47	5%	1/10W
R712	1-216-186-00	RES,CHIP	330	5%	1/8W
R713	1-216-295-00	SHORT	0		
R716	1-216-295-00	SHORT	0		
R718	1-216-295-00	SHORT	0		
R719	1-216-017-00	RES,CHIP	47	5%	1/10W
R721	1-216-295-00	SHORT	0		
R722	1-216-295-00	SHORT	0		
R724	1-216-021-00	METAL CHIP	68	5%	1/10W
R725	1-216-032-00	METAL CHIP	200	5%	1/10W
R726	1-216-019-00	METAL CHIP	56	5%	1/10W
R727	1-216-186-00	RES,CHIP	330	5%	1/8W
R728	1-216-295-00	SHORT	0		
R740	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R741	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R742	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R743	1-208-437-61	RES,CHIP	1K	2%	1/10W
R744	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R745	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R746	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R747	1-208-449-61	RES,CHIP	3.3K	2%	1/10W
R748	1-208-453-61	RES,CHIP	4.7K	2%	1/10W
R751	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R752	1-216-647-11	METAL CHIP	680	0.5%	1/10W

Ref. No.	Part No.	Description			Remark
R753	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R754	1-208-437-61	RES,CHIP	1K	2%	1/10W
R755	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R756	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R757	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R758	1-208-449-61	RES,CHIP	3.3K	2%	1/10W
R759	1-208-453-61	RES,CHIP	4.7K	2%	1/10W
R760	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R782	1-216-295-00	SHORT	0		
R784	1-216-295-00	SHORT	0		
		< SWITCH >			
SW701	1-771-027-21	SWITCH, KEY BOARD (WITH LED) (RESET)			
SW702	1-771-027-21	SWITCH, KEY BOARD (WITH LED) (D-BASS)			
**********					
*	1-673-785-12	JOG BOARD			
		**********			
		< DIODE >			
D771	8-719-991-27	LED CL-170G-CD-T			
D772	8-719-991-27	LED CL-170G-CD-T			
D773	8-719-991-27	LED CL-170G-CD-T			
		< RESISTOR >			
R771	1-216-295-00	SHORT	0		
R772	1-216-295-00	SHORT	0		
R773	1-216-033-00	METAL CHIP	220	5%	1/10W
		< JOG ENCODER >			
VR771	1-418-378-12	ENCODER, JOG			
**********					
*	1-659-835-12	LIMIT BOARD			
		**********			
		< SWITCH >			
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)			
**********					
*	1-659-837-11	LOAD BOARD			
		**********			
		< SWITCH >			
SW4	1-572-288-21	SWITCH, PUSH (DOWN)			
**********					
*	A-3294-683-A	MAIN BOARD, COMPLETE (US)			
*	A-3294-684-A	MAIN BOARD, COMPLETE (E)			
		**********			
*	3-026-742-01	SPACER (PWR)			
	7-685-792-09	SCREW +PTT 2.6X6 (S)			

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C3	1-124-584-00	ELECT	100uF	20%	10V
C4	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5	1-124-584-00	ELECT	100uF	20%	10V
C6	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C7	1-124-584-00	ELECT	100uF	20%	10V
C8	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C9	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C10	1-124-584-00	ELECT	100uF	20%	10V
C11	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C12	1-136-177-00	FILM	1uF	5%	50V
C13	1-104-683-11	MYLAR	0.0047uF	5%	50V
C14	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C15	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C16	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C17	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C18	1-124-233-11	ELECT	10uF	20%	16V
C19	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C20	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C21	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C22	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C23	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C24	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C100	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C101	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C102	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C103	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C104	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C105	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C106	1-124-465-00	ELECT	0.47uF	20%	50V
C107	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C108	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C109	1-124-259-11	ELECT	4.7uF	20%	35V
C131	1-126-160-11	ELECT	1uF	20%	50V
C132	1-163-133-00	CERAMIC CHIP	470PF	5%	50V (US)
C132	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V (E)
C133	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C134	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V (US)
C134	1-163-139-00	CERAMIC CHIP	820PF	5%	50V (E)
C135	1-163-133-00	CERAMIC CHIP	470PF	5%	50V (US)
C135	1-163-135-00	CERAMIC CHIP	560PF	5%	50V (E)
C136	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V (US)
C136	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V (E)
C141	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C142	1-124-259-11	ELECT	4.7uF	20%	35V
C150	1-126-160-11	ELECT	1uF	20%	50V
C151	1-124-233-11	ELECT	10uF	20%	16V
C152	1-115-419-11	CERAMIC CHIP	3300PF	5%	25V
C153	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C154	1-124-233-11	ELECT	10uF	20%	16V
C155	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C156	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C157	1-124-233-11	ELECT	10uF	20%	16V
C180	1-124-233-11	ELECT	10uF	20%	16V
C181	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C190	1-124-233-11	ELECT	10uF	20%	16V
C191	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C192	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C200	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C201	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C202	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C203	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C204	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C205	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C206	1-124-465-00	ELECT	0.47uF	20%	50V
C207	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C208	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C209	1-124-259-11	ELECT	4.7uF	20%	35V
C231	1-126-160-11	ELECT	1uF	20%	50V
C232	1-163-133-00	CERAMIC CHIP	470PF	5%	50V (US)
C232	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V (E)
C233	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C234	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V (US)
C234	1-163-139-00	CERAMIC CHIP	820PF	5%	50V (E)
C235	1-163-133-00	CERAMIC CHIP	470PF	5%	50V (US)
C235	1-163-135-00	CERAMIC CHIP	560PF	5%	50V (E)
C236	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V (US)
C236	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V (E)
C241	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C242	1-124-259-11	ELECT	4.7uF	20%	35V
C250	1-126-160-11	ELECT	1uF	20%	50V
C251	1-124-233-11	ELECT	10uF	20%	16V
C252	1-115-419-11	CERAMIC CHIP	3300PF	5%	25V
C253	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C254	1-124-233-11	ELECT	10uF	20%	16V
C255	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C256	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C257	1-124-233-11	ELECT	10uF	20%	16V
C280	1-124-233-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C281	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C282	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C290	1-124-233-11	ELECT	10uF	20%	16V
C291	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C292	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C300	1-124-584-00	ELECT	100uF	20%	10V
C301	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C302	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C303	1-131-360-41	TANTALUM	15uF	10%	25V
C304	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C305	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C306	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C307	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C308	1-124-259-11	ELECT	4.7uF	20%	35V
C331	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C332	1-124-233-11	ELECT	10uF	20%	16V
C341	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C342	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C343	1-124-233-11	ELECT	10uF	20%	16V
C344	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C350	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C351	1-124-584-00	ELECT	100uF	20%	10V
C352	1-124-234-00	ELECT	22uF	20%	16V
C353	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C500	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C501	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C502	1-124-233-11	ELECT	10uF	20%	16V
C503	1-124-233-11	ELECT	10uF	20%	16V
C504	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C505	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C506	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C507	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C508	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C509	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C510	1-124-584-00	ELECT	100uF	20%	10V
C511	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C512	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C513	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C514	1-124-233-11	ELECT	10uF	20%	16V
C515	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C516	1-164-346-11	CERAMIC CHIP	1uF		16V
C517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C518	1-124-584-00	ELECT	100uF	20%	10V
C519	1-125-701-11	DOUBLE LAYERS	0.047F		5.5V
C520	1-126-153-11	ELECT	22uF	20%	6.3V
C521	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C523	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C524	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C525	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C600	1-126-941-11	ELECT	470uF	20%	25V
C601	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C602	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C603	1-124-233-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C604	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C605	1-124-234-00	ELECT	22uF	20%	16V
C620	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C622	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C651	1-111-233-11	ELECT	5600uF	20%	16V
C654	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C655	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C656	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C657	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C658	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C659	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C660	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C663	1-124-233-11	ELECT	10uF	20%	16V
C664	1-124-589-11	ELECT	47uF	20%	16V
C665	1-124-259-11	ELECT	4.7uF	20%	35V
C666	1-124-257-00	ELECT	2.2uF	20%	50V
C667	1-124-589-11	ELECT	47uF	20%	16V
C680	1-124-233-11	ELECT	10uF	20%	16V
C681	1-124-234-00	ELECT	22uF	20%	16V
C682	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C683	1-124-233-11	ELECT	10uF	20%	16V
C684	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C685	1-124-233-11	ELECT	10uF	20%	16V
C686	1-124-229-00	ELECT	33uF	20%	10V
C687	1-124-229-00	ELECT	33uF	20%	10V
C688	1-124-242-00	ELECT	33uF	20%	25V
C751	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C752	1-137-194-00	FILM	0.47uF	5%	50V
C753	1-124-233-11	ELECT	10uF	20%	16V
C754	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C755	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C756	1-136-165-00	FILM	0.1uF	5%	50V
		< CONNECTOR >			
CN300	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P			
CN350	1-778-965-21	CONNECTOR 12P			
CN500	1-778-832-11	CONNECTOR 16P			
* CN501	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
* CN600	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P			
CN620	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
CN651	1-774-701-11	PIN, CONNECTOR 16P			
* CN652	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
		< DISCHARGE GAP >			
CP1	1-519-504-11	GAP, DISCHARGE			
		< DIODE >			
D1	8-719-991-65	DIODE SB02W03C-TB			
D500	8-719-073-01	DIODE MA111-TX			
D501	8-719-073-01	DIODE MA111-TX			
D502	8-719-991-65	DIODE SB02W03C-TB			
D503	8-719-073-01	DIODE MA111-TX			

Ref. No.	Part No.	Description	Remark
D504	8-719-400-20	DIODE MA152WA-TX	
D505	8-719-073-01	DIODE MA111-TX	
D506	8-719-422-64	DIODE MA8062-M-TX	
D507	8-719-422-64	DIODE MA8062-M-TX	
D508	8-719-422-64	DIODE MA8062-M-TX	
D509	8-719-977-12	DIODE MA8068-M-TX	
D510	8-719-977-12	DIODE MA8068-M-TX	
D511	8-719-422-64	DIODE MA8062-M-TX	
D512	8-719-422-64	DIODE MA8062-M-TX	
D513	8-719-073-01	DIODE MA111-TX	
D514	8-719-073-01	DIODE MA111-TX	
D600	8-719-053-18	DIODE 1SR154-400TE-25	
D601	8-719-422-97	DIODE MA8091-M-TX	
D602	8-719-073-01	DIODE MA111-TX	
D603	8-719-073-01	DIODE MA111-TX	
D620	8-719-022-90	DIODE MA8160-M-TX	
D621	8-719-057-80	DIODE MA8180-M-TX	
D622	8-719-017-67	DIODE MA8068-H-TX	
D623	8-719-057-80	DIODE MA8180-M-TX	
D624	8-719-033-43	DIODE RB751H-TT11	
D625	8-719-057-80	DIODE MA8180-M-TX	
D651	8-719-049-38	DIODE 1N5404TU	
D652	8-719-977-03	DIODE MA8056-H-TX	
D653	8-719-053-18	DIODE 1SR154-400TE-25	
D654	8-719-053-18	DIODE 1SR154-400TE-25	
D656	8-719-057-80	DIODE MA8180-M-TX	
D659	8-719-022-90	DIODE MA8160-M-TX	
D660	8-719-053-18	DIODE 1SR154-400TE-25	
D661	8-719-053-18	DIODE 1SR154-400TE-25	
D662	8-719-801-78	DIODE MA152WK-TX	
D663	8-719-422-62	DIODE MA8062-L-TX	
D664	8-719-053-18	DIODE 1SR154-400TE-25	
D680	8-719-073-01	DIODE MA111-TX	
D681	8-719-422-16	DIODE MA8039-L-TX	
D751	8-719-053-18	DIODE 1SR154-400TE-25	
D752	8-719-053-18	DIODE 1SR154-400TE-25	
D753	8-719-053-18	DIODE 1SR154-400TE-25	
D754	8-719-053-18	DIODE 1SR154-400TE-25	
D755	8-719-053-18	DIODE 1SR154-400TE-25	
D756	8-719-053-18	DIODE 1SR154-400TE-25	
D757	8-719-053-18	DIODE 1SR154-400TE-25	
D758	8-719-053-18	DIODE 1SR154-400TE-25	
		< IC >	
IC1	8-759-448-85	IC U2624FV-E2	
IC300	8-752-079-79	IC CXA2510AQ-T4	
IC331	8-759-100-96	IC NJM4558M-T1	
IC341	8-759-100-96	IC NJM4558M-T1	
IC350	8-759-487-82	IC LC75374E	
IC500	8-759-590-59	IC uPD78058GC-B51-8BT	
IC501	8-759-363-81	IC XC61AN4002PR	
IC502	8-759-344-91	IC RN5VD23AA-TL	
IC600	8-759-527-33	IC LB1930M-TLM	

MAIN

Ref. No.	Part No.	Description	Remark
IC620	8-759-449-89	IC BA8270F-E2	
IC680	8-759-347-49	IC BA3918-V2	
IC751	8-759-490-74	IC TDA7384	
		< JACK >	
J1	1-764-808-21	JACK (ANTENNA)	
J500	1-566-822-41	JACK (REMOTE IN)	
		< JUMPER RESISTOR >	
JC1	1-216-295-00	SHORT 0	
JC2	1-216-295-00	SHORT 0	
JC3	1-216-296-00	SHORT 0	
JC4	1-216-295-00	SHORT 0	
JC351	1-216-296-00	SHORT 0	
JC500	1-216-295-00	SHORT 0	
JC501	1-216-295-00	SHORT 0	
JC502	1-216-295-00	SHORT 0	
JC651	1-216-295-00	SHORT 0	
		< COIL >	
L1	1-410-509-61	INDUCTOR 10uH	
L500	1-410-509-61	INDUCTOR 10uH	
L651	1-411-669-12	COIL, CHOKE (TROIDAL-S)	
		< EARTH TERMINAL >	
* LUG1	1-537-738-21	TERMINAL, EARTH	
* LUG2	1-537-738-21	TERMINAL, EARTH	
* LUG3	1-537-738-21	TERMINAL, EARTH	
		< THERMISTOR (POSITIVE) >	
PS620	1-801-792-21	THERMISTOR, POSITIVE	
		< TRANSISTOR >	
Q1	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q2	8-729-021-94	FET 2SK1657-T1B	
Q3	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q4	8-729-216-22	TRANSISTOR 2SA1162-YG-TE85L	
Q5	8-729-421-22	TRANSISTOR UN2211-TX	
Q180	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q190	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q280	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q290	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q340	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q500	8-729-021-94	FET 2SK1657-T1B	
Q501	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q503	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q504	8-729-424-08	TRANSISTOR UN2111-TX	
Q505	8-729-424-08	TRANSISTOR UN2111-TX	
Q600	8-729-807-12	TRANSISTOR 2SD1802FAT-TL	
Q601	8-729-424-08	TRANSISTOR UN2111-TX	
Q602	8-729-421-22	TRANSISTOR UN2211-TX	
Q603	8-729-106-60	TRANSISTOR 2SB1122-T-TD	
Q604	8-729-421-22	TRANSISTOR UN2211-TX	

Ref. No.	Part No.	Description			Remark
Q620	8-729-421-22	TRANSISTOR UN2211-TX			
Q621	8-729-216-22	TRANSISTOR 2SA1162-YG-TE85L			
Q653	8-729-421-22	TRANSISTOR UN2211-TX			
Q654	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q655	8-729-424-52	TRANSISTOR UN211F-TX			
		< RESISTOR >			
R1	1-216-037-00	METAL CHIP	330	5%	1/10W
R2	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R3	1-216-049-11	RES,CHIP	1K	5%	1/10W
R4	1-216-049-11	RES,CHIP	1K	5%	1/10W
R5	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R6	1-216-049-11	RES,CHIP	1K	5%	1/10W
R7	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R8	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R9	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R10	1-216-073-00	METAL CHIP	10K	5%	1/10W
R11	1-216-097-00	RES,CHIP	100K	5%	1/10W
R12	1-216-097-00	RES,CHIP	100K	5%	1/10W
R13	1-216-025-00	RES,CHIP	100	5%	1/10W
R14	1-216-073-00	METAL CHIP	10K	5%	1/10W
R15	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R16	1-216-073-00	METAL CHIP	10K	5%	1/10W
R17	1-216-081-00	METAL CHIP	22K	5%	1/10W
R18	1-216-073-00	METAL CHIP	10K	5%	1/10W
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W
R20	1-216-073-00	METAL CHIP	10K	5%	1/10W
R21	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R100	1-216-097-00	RES,CHIP	100K	5%	1/10W
R101	1-216-097-00	RES,CHIP	100K	5%	1/10W
R102	1-216-027-00	METAL CHIP	120	5%	1/10W
R103	1-216-109-00	METAL CHIP	330K	5%	1/10W
R104	1-216-075-00	METAL CHIP	12K	5%	1/10W
R105	1-216-079-00	METAL CHIP	18K	5%	1/10W
R106	1-216-077-00	RES,CHIP	15K	5%	1/10W
R131	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R132	1-216-091-00	METAL CHIP	56K	5%	1/10W (E)
R132	1-216-095-00	METAL CHIP	82K	5%	1/10W (US)
R133	1-216-089-00	RES,CHIP	47K	5%	1/10W
R134	1-216-113-00	METAL CHIP	470K	5%	1/10W
R135	1-216-091-00	METAL CHIP	56K	5%	1/10W
R136	1-216-089-00	RES,CHIP	47K	5%	1/10W
R137	1-216-073-00	METAL CHIP	10K	5%	1/10W (E)
R137	1-216-689-11	METAL CHIP	39K	0.5%	1/10W (US)
R141	1-216-089-00	RES,CHIP	47K	5%	1/10W
R150	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R183	1-216-073-00	METAL CHIP	10K	5%	1/10W
R184	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R185	1-216-033-00	METAL CHIP	220	5%	1/10W

Ref. No.	Part No.	Description			Remark
R186	1-216-081-00	METAL CHIP	22K	5%	1/10W
R192	1-216-073-00	METAL CHIP	10K	5%	1/10W
R193	1-216-073-00	METAL CHIP	10K	5%	1/10W
R194	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R195	1-216-033-00	METAL CHIP	220	5%	1/10W
R196	1-216-081-00	METAL CHIP	22K	5%	1/10W
R200	1-216-097-00	RES,CHIP	100K	5%	1/10W
R201	1-216-097-00	RES,CHIP	100K	5%	1/10W
R202	1-216-027-00	METAL CHIP	120	5%	1/10W
R203	1-216-109-00	METAL CHIP	330K	5%	1/10W
R204	1-216-075-00	METAL CHIP	12K	5%	1/10W
R205	1-216-079-00	METAL CHIP	18K	5%	1/10W
R206	1-216-077-00	RES,CHIP	15K	5%	1/10W
R231	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R232	1-216-091-00	METAL CHIP	56K	5%	1/10W (E)
R232	1-216-095-00	METAL CHIP	82K	5%	1/10W (US)
R233	1-216-089-00	RES,CHIP	47K	5%	1/10W
R234	1-216-113-00	METAL CHIP	470K	5%	1/10W
R235	1-216-091-00	METAL CHIP	56K	5%	1/10W
R236	1-216-089-00	RES,CHIP	47K	5%	1/10W
R237	1-216-073-00	METAL CHIP	10K	5%	1/10W (E)
R237	1-216-689-11	METAL CHIP	39K	0.5%	1/10W (US)
R241	1-216-089-00	RES,CHIP	47K	5%	1/10W
R250	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R282	1-216-073-00	METAL CHIP	10K	5%	1/10W
R283	1-216-073-00	METAL CHIP	10K	5%	1/10W
R284	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R285	1-216-033-00	METAL CHIP	220	5%	1/10W
R286	1-216-081-00	METAL CHIP	22K	5%	1/10W
R292	1-216-073-00	METAL CHIP	10K	5%	1/10W
R293	1-216-073-00	METAL CHIP	10K	5%	1/10W
R294	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R295	1-216-033-00	METAL CHIP	220	5%	1/10W
R296	1-216-081-00	METAL CHIP	22K	5%	1/10W
R300	1-216-080-00	METAL CHIP	20K	5%	1/10W
R301	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R302	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R303	1-216-113-00	METAL CHIP	470K	5%	1/10W
R304	1-216-073-00	METAL CHIP	10K	5%	1/10W
R305	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R331	1-216-025-00	RES,CHIP	100	5%	1/10W
R341	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R342	1-216-295-00	SHORT	0		
R345	1-216-049-11	RES,CHIP	1K	5%	1/10W
R500	1-216-097-00	RES,CHIP	100K	5%	1/10W
R501	1-216-049-11	RES,CHIP	1K	5%	1/10W
R502	1-216-049-11	RES,CHIP	1K	5%	1/10W
R503	1-216-049-11	RES,CHIP	1K	5%	1/10W
R504	1-216-049-11	RES,CHIP	1K	5%	1/10W
R505	1-216-295-00	SHORT	0		

Ref. No.	Part No.	Description			Remark
R506	1-216-049-11	RES,CHIP	1K	5%	1/10W
R507	1-216-049-11	RES,CHIP	1K	5%	1/10W
R508	1-216-049-11	RES,CHIP	1K	5%	1/10W
R509	1-216-097-00	RES,CHIP	100K	5%	1/10W
R511	1-216-295-00	SHORT	0		
R512	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R513	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R514	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R515	1-216-295-00	SHORT	0		
R516	1-216-097-00	RES,CHIP	100K	5%	1/10W
R517	1-216-097-00	RES,CHIP	100K	5%	1/10W
R518	1-216-097-00	RES,CHIP	100K	5%	1/10W
R520	1-216-097-00	RES,CHIP	100K	5%	1/10W
R521	1-216-097-00	RES,CHIP	100K	5%	1/10W
R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R523	1-216-097-00	RES,CHIP	100K	5%	1/10W
R524	1-216-097-00	RES,CHIP	100K	5%	1/10W
R525	1-216-037-00	METAL CHIP	330	5%	1/10W
R526	1-216-089-00	RES,CHIP	47K	5%	1/10W
R527	1-216-089-00	RES,CHIP	47K	5%	1/10W
R528	1-216-089-00	RES,CHIP	47K	5%	1/10W
R529	1-216-089-00	RES,CHIP	47K	5%	1/10W
R530	1-216-073-00	METAL CHIP	10K	5%	1/10W
R531	1-216-073-00	METAL CHIP	10K	5%	1/10W
R532	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R533	1-216-699-00	METAL CHIP	100K	0.50%	1/10W (E)
R534	1-216-698-11	METAL CHIP	91K	0.5%	1/10W (E)
R535	1-216-698-11	METAL CHIP	91K	0.5%	1/10W (E)
R536	1-216-699-00	METAL CHIP	100K	0.50%	1/10W
R538	1-216-097-00	RES,CHIP	100K	5%	1/10W
R539	1-216-085-00	METAL CHIP	33K	5%	1/10W
R540	1-216-073-00	METAL CHIP	10K	5%	1/10W
R541	1-216-073-00	METAL CHIP	10K	5%	1/10W
R542	1-216-089-00	RES,CHIP	47K	5%	1/10W
R543	1-216-089-00	RES,CHIP	47K	5%	1/10W
R544	1-216-113-00	METAL CHIP	470K	5%	1/10W
R545	1-216-097-00	RES,CHIP	100K	5%	1/10W
R546	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R547	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R548	1-216-025-00	RES,CHIP	100	5%	1/10W
R549	1-216-025-00	RES,CHIP	100	5%	1/10W
R550	1-216-025-00	RES,CHIP	100	5%	1/10W
R551	1-216-025-00	RES,CHIP	100	5%	1/10W
R552	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R553	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R554	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R555	1-216-073-00	METAL CHIP	10K	5%	1/10W
R556	1-216-105-00	RES,CHIP	220K	5%	1/10W
R557	1-216-049-11	RES,CHIP	1K	5%	1/10W
R558	1-216-049-11	RES,CHIP	1K	5%	1/10W

MAIN **SENSOR** **SERVO**

Ref. No.	Part No.	Description			Remark
R600	1-216-049-11	RES,CHIP	1K	5%	1/10W
R601	1-216-150-00	RES,CHIP	10	5%	1/8W
R602	1-216-150-00	RES,CHIP	10	5%	1/8W
R603	1-216-150-00	RES,CHIP	10	5%	1/8W
R604	1-216-150-00	RES,CHIP	10	5%	1/8W
R605	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R606	1-216-073-00	METAL CHIP	10K	5%	1/10W
R620	1-216-158-00	RES,CHIP	22	5%	1/8W
R621	1-216-295-00	SHORT	0		
R623	1-216-079-00	METAL CHIP	18K	5%	1/10W
R624	1-216-089-00	RES,CHIP	47K	5%	1/10W
R625	1-216-073-00	METAL CHIP	10K	5%	1/10W
R626	1-216-025-00	RES,CHIP	100	5%	1/10W
R627	1-216-025-00	RES,CHIP	100	5%	1/10W
R628	1-216-073-00	METAL CHIP	10K	5%	1/10W
R651	1-216-025-00	RES,CHIP	100	5%	1/10W
R652	1-216-085-00	METAL CHIP	33K	5%	1/10W
R655	1-216-049-11	RES,CHIP	1K	5%	1/10W
R656	1-216-079-00	METAL CHIP	18K	5%	1/10W
R657	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R658	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R659	1-216-075-00	METAL CHIP	12K	5%	1/10W
R660	1-216-081-00	METAL CHIP	22K	5%	1/10W
R661	1-216-081-00	METAL CHIP	22K	5%	1/10W
R662	1-216-017-00	RES,CHIP	47	5%	1/10W
R680	1-216-073-00	METAL CHIP	10K	5%	1/10W
R681	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV100	1-238-600-11	RES, ADJ, CARBON	10K		
RV200	1-238-600-11	RES, ADJ, CARBON	10K		
		< SWITCH >			
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)			
S502	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT) (E)			
		< TUNER >			
TU1	A-3282-029-A	TUNER UNIT (TUX-006/2(E))			
		< VIBRATOR >			
X1	1-567-848-11	VIBRATOR, CRYSTAL (7.2MHz)			
X500	1-579-233-11	VIBRATOR, CERAMIC (5MHz)			
X501	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
**********					
*	1-660-797-21	SENSOR BOARD			
		**********			
		< DIODE >			
D10	8-719-045-75	LED L-200IR-X-TU			
D11	8-719-045-75	LED L-200IR-X-TU			
D12	8-719-045-75	LED L-200IR-X-TU			

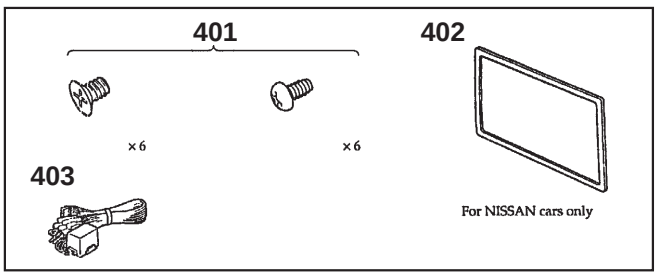
Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R10	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R11	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R12	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
		< SWITCH >			
SW1	1-572-288-21	SWITCH, PUSH (SELF)			
**********					
*	A-3313-563-A	SERVO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C3	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C5	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C6	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C7	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C9	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C10	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C11	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C13	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C14	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C15	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C17	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C19	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C20	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C21	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C23	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C24	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C25	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C26	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C31	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C33	1-124-779-00	ELECT CHIP	10uF	20%	16V
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C35	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C36	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C39	1-126-204-11	ELECT CHIP	47uF	20%	16V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description		Remark
		< CONNECTOR >		
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P		
CN2	1-565-728-11	CONNECTOR, FPC 17P		
CN3	1-770-347-21	CONNECTOR, FPC 6P		
* CN4	1-580-056-21	PIN, CONNECTOR (SMD) 3P		
		< IC >		
IC1	8-752-372-94	IC XD2507AQ		
IC2	8-752-074-34	IC XA1782BQ		
IC3	8-759-354-16	IC A6796FP-T1		
		< JUMPER RESISTOR >		
JR2	1-216-296-00	SHORT	0	
JR3	1-216-296-00	SHORT	0	
JR5	1-216-296-00	SHORT	0	
JR6	1-216-296-00	SHORT	0	
JR7	1-216-296-00	SHORT	0	
JR8	1-216-296-00	SHORT	0	
JR9	1-216-296-00	SHORT	0	
JR10	1-216-296-00	SHORT	0	
JR11	1-216-296-00	SHORT	0	
JR12	1-216-296-00	SHORT	0	
JR13	1-216-296-00	SHORT	0	
JR14	1-216-296-00	SHORT	0	
JR15	1-216-296-00	SHORT	0	
JR16	1-216-296-00	SHORT	0	
JR17	1-216-296-00	SHORT	0	
JR18	1-216-296-00	SHORT	0	
JR19	1-216-296-00	SHORT	0	
JR20	1-216-296-00	SHORT	0	
JR21	1-216-296-00	SHORT	0	
JR22	1-216-296-00	SHORT	0	
JR23	1-216-296-00	SHORT	0	
JR24	1-216-296-00	SHORT	0	
JR25	1-216-296-00	SHORT	0	
JR26	1-216-296-00	SHORT	0	
JR27	1-216-296-00	SHORT	0	
JR28	1-216-296-00	SHORT	0	
JR29	1-216-296-00	SHORT	0	
JR30	1-216-296-00	SHORT	0	
JR31	1-216-296-00	SHORT	0	
JR34	1-216-296-00	SHORT	0	
JR35	1-216-296-00	SHORT	0	
JR36	1-216-296-00	SHORT	0	
JR37	1-216-296-00	SHORT	0	
JR38	1-216-296-00	SHORT	0	
JR39	1-216-296-00	SHORT	0	
JR40	1-216-296-00	SHORT	0	
JR41	1-216-296-00	SHORT	0	
JR42	1-216-296-00	SHORT	0	
JR43	1-216-296-00	SHORT	0	
JR44	1-216-296-00	SHORT	0	
JR45	1-216-296-00	SHORT	0	
JR46	1-216-296-00	SHORT	0	
JR47	1-216-296-00	SHORT	0	
JR48	1-216-296-00	SHORT	0	
JR49	1-216-296-00	SHORT	0	
JR50	1-216-296-00	SHORT	0	
JR51	1-216-296-00	SHORT	0	
JR52	1-216-296-00	SHORT	0	
JR53	1-216-296-00	SHORT	0	
JR54	1-216-296-00	SHORT	0	
JR55	1-216-296-00	SHORT	0	
JR56	1-216-296-00	SHORT	0	
JR57	1-216-296-00	SHORT	0	
JR58	1-216-296-00	SHORT	0	
JR59	1-216-296-00	SHORT	0	
JR60	1-216-296-00	SHORT	0	
		< COIL >		
L1	1-412-058-11	INDUCTOR CHIP	10uH	
L2	1-412-058-11	INDUCTOR CHIP	10uH	
L3	1-412-058-11	INDUCTOR CHIP	10uH	
		< TRANSISTOR >		
Q1	8-729-904-60	TRANSISTOR DTB113ZK-T-146		
Q2	8-729-904-86	TRANSISTOR 2SB1197K-T-146-Q		
Q11	8-729-037-94	PHOTO TRANSISTOR CPT-230S-C-TD-BC		
Q12	8-729-037-94	PHOTO TRANSISTOR CPT-230S-C-TD-BC		
Q13	8-729-037-94	PHOTO TRANSISTOR CPT-230S-C-TD-BC		
		< RESISTOR >		
R1	1-216-073-00	METAL CHIP	10K	5% 1/10W
R2	1-216-097-00	RES,CHIP	100K	5% 1/10W
R3	1-216-121-00	RES,CHIP	1M	5% 1/10W
R4	1-216-061-00	METAL CHIP	3.3K	5% 1/10W
R5	1-216-061-00	METAL CHIP	3.3K	5% 1/10W
R6	1-216-073-00	METAL CHIP	10K	5% 1/10W
R7	1-216-009-00	RES,CHIP	22	5% 1/10W
R8	1-216-119-00	METAL CHIP	820K	5% 1/10W
R9	1-216-119-00	METAL CHIP	820K	5% 1/10W
R10	1-216-073-00	METAL CHIP	10K	5% 1/10W
R11	1-216-073-00	METAL CHIP	10K	5% 1/10W
R14	1-216-085-00	METAL CHIP	33K	5% 1/10W
R15	1-216-085-00	METAL CHIP	33K	5% 1/10W
R16	1-216-077-00	RES,CHIP	15K	5% 1/10W
R17	1-216-081-00	METAL CHIP	22K	5% 1/10W
R19	1-216-079-00	METAL CHIP	18K	5% 1/10W
R20	1-216-105-00	RES,CHIP	220K	5% 1/10W
R21	1-216-105-00	RES,CHIP	220K	5% 1/10W
R22	1-216-085-00	METAL CHIP	33K	5% 1/10W
R23	1-216-121-00	RES,CHIP	1M	5% 1/10W
R24	1-216-073-00	METAL CHIP	10K	5% 1/10W
R27	1-216-295-00	SHORT	0	
R28	1-216-101-00	METAL CHIP	150K	5% 1/10W

SERVO SUB TR

Ref. No.	Part No.	Description			Remark
R29	1-216-097-00	RES,CHIP	100K	5%	1/10W
R30	1-216-097-00	RES,CHIP	100K	5%	1/10W
R31	1-216-081-00	METAL CHIP	22K	5%	1/10W
R32	1-216-109-00	METAL CHIP	330K	5%	1/10W
R33	1-216-105-00	RES,CHIP	220K	5%	1/10W
R34	1-216-009-00	RES,CHIP	22	5%	1/10W
R35	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R36	1-216-097-00	RES,CHIP	100K	5%	1/10W
R37	1-216-117-00	METAL CHIP	680K	5%	1/10W
R38	1-216-109-00	METAL CHIP	330K	5%	1/10W
R39	1-216-101-00	METAL CHIP	150K	5%	1/10W
R40	1-216-114-00	RES,CHIP	510K	5%	1/10W
R41	1-216-093-00	RES,CHIP	68K	5%	1/10W
R42	1-216-101-00	METAL CHIP	150K	5%	1/10W
R43	1-216-097-00	RES,CHIP	100K	5%	1/10W
R44	1-216-085-00	METAL CHIP	33K	5%	1/10W
R45	1-216-081-00	METAL CHIP	22K	5%	1/10W
R46	1-216-097-00	RES,CHIP	100K	5%	1/10W
R47	1-216-105-00	RES,CHIP	220K	5%	1/10W
R48	1-216-073-00	METAL CHIP	10K	5%	1/10W
R49	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R50	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R51	1-216-295-00	SHORT	0		
		< VARIABLE RESISTOR >			
RV1	1-238-091-11	RES, ADJ, CERMET	22K		
RV4	1-238-091-11	RES, ADJ, CERMET	22K		
**********					
*	1-659-834-11	SUB BOARD			
		**********			
		< CONNECTOR >			
CN1	1-770-347-21	CONNECTOR, FPC 6P			
**********					
*	1-676-336-11	TR BOARD			
		*********			
		< CAPACITOR >			
C901	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C902	1-126-964-11	ELECT	10uF	20%	50V
C903	1-126-964-11	ELECT	10uF	20%	50V
C904	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C905	1-126-964-11	ELECT	10uF	20%	50V
C906	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
* CN901	1-564-508-11	PLUG, CONNECTOR 5P			
		< TRANSISTOR >			
Q901	8-729-019-00	TRANSISTOR	2SD2394-G		
**********					

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
1	1-791-457-11	CORD (WITH CONNECTOR) (POWER)	
307	1-659-880-11	MOTOR FLEXIBLE BOARD	
⚠310	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
312	1-659-881-11	PICK-UP FLEXIBLE BOARD	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	
M903	A-3291-576-A	MOTOR SUB ASSY, LOADING (LOADING)	
M904	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-866-713-11	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-866-713-21	MANUAL, INSTRUCTION (ENGLISH,SPANISH, TRADITIONAL CHINESE) (E)	
	3-866-714-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH) (US)	
	3-866-714-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,TRADITIONAL CHINESE) (E)	
	X-3374-605-4	COVER ASSY, FRONT	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-791-09	SCREW +PTT 2.6X5 (S)	
#2	7-685-795-09	SCREW +PTT 2.6X12 (S)	
#3	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#4	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#5	7-624-104-04	STOP RING 2.0, TYPE -E	
#6	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
#7	7-628-253-15	SCREW +PS 2X5	
#8	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE3	
#9	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE3	
#10	7-627-850-28	SCREW, PRECISION +P 1.4X3	
**********			
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
401	X-3375-549-1	SCREW ASSY (6)	
402	3-034-274-01	FRAME (N), ORNAMENT	
403	1-791-457-11	CORD (WITH CONNECTOR) (POWER)	



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

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